The OIL WEEKLY

10¢ A COPY

Exclusively Devoted To The Production and Transportation of Oil and Gas

January 6, 1928 **Volume 48. No. 3**

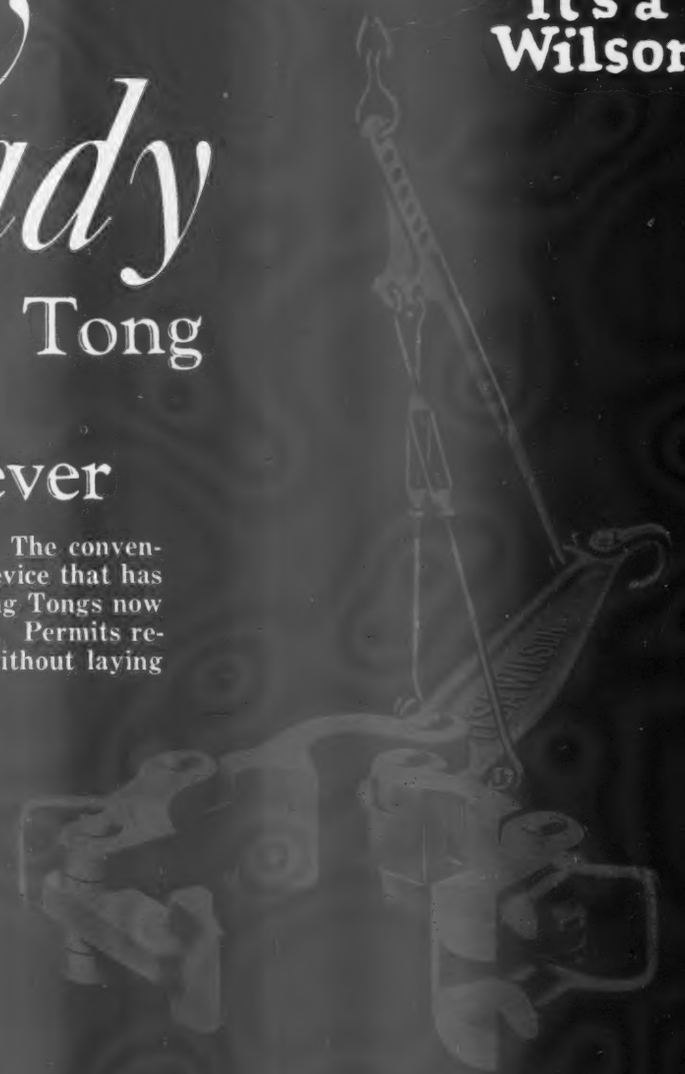
Now ready

Wilson Rotary Tong with Rollover Lever

It's a Wilson

Another advance in Wilson design. The convenient Rollover Lever and Hanging Device that has proved so successful in Wilson Casing Tongs now is embodied in Wilson Rotary Tongs. Permits reversal of Tong within 10 seconds without laying Tong on floor.

Carried in stock by your supply companies



Wilson Oil Tools Corp.
DISTRIBUTORS FOR
Wilson & Willard Mfg. Co.
Factory and Distributors Office — It's a Wilson — 2301 East Vernon Ave
Los Angeles, Calif.

Sales Representatives

Tulsa, Okla. 409 Atlas Life Bldg.

Houston, Tex. 219 Post Dispatch Bldg.

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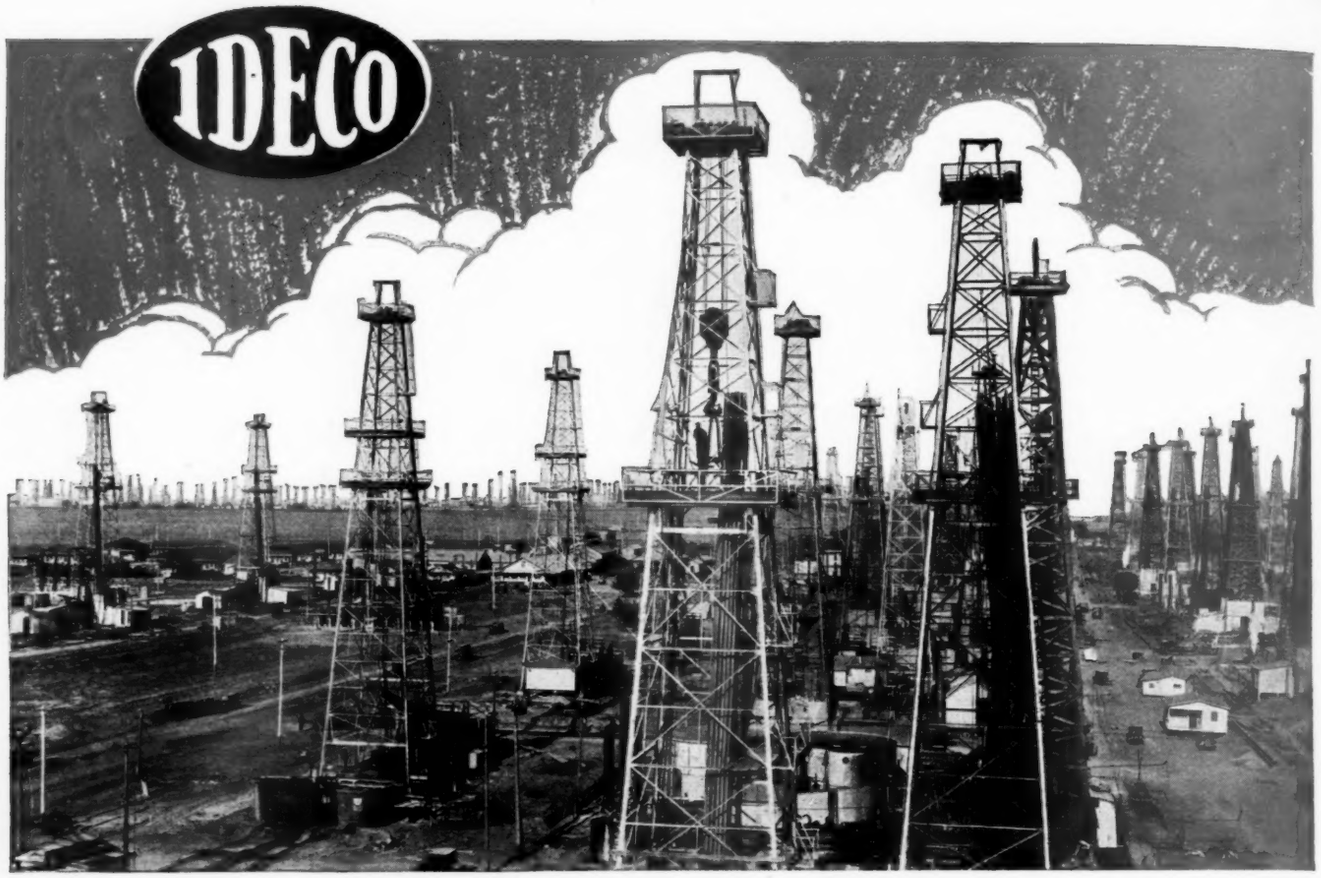

NEVER EXCELLED

The popularity and remarkable success of IDECO products have caused them to be copied up to the point where our patent protections prevent further progress. So far, no one has successfully produced a derrick to compare with IDECO.

It seldom takes more than one experience to prove that only the *best* rig is good enough.

THE INTERNATIONAL DERRICK & EQUIPMENT CO.

Dallas
Houston
Mexia
Wichita Falls
Pyote
Amarillo
Borger
Corsicana
Pampa
Panhandle
Shreveport
Oil City
Smackover

The largest company devoted exclusively to the manufacture of steel (galvanized) equipment for the oil, gas and artesian industries

COLUMBUS, OHIO — TORRANCE, CAL.

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Casper
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Export Representation: 74 Trinity Place, New York City; Columbus, Ohio; Los Angeles and San Francisco, Cal.

INTERNATIONAL STEEL IDECO DERRICKS (GALVANIZED)

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

POPULARITY

Money will buy many things but rarely popularity. The public simply won't applaud unless it feels applause is merited.

The same may be said of industrial products. Salesmanship may win the first order but the second depends on performance. The fact that GASO Pumps have achieved leadership in the oil industry largely by reason of *repeat orders* is convincing proof of their quality.

Gaso No. 1012

Two of the Most Popular of All Oil-Industry Pumps.

• • •

Dependability and serviceability are the twin reasons for the wide use GASO Nos. 1018 and 1012 enjoy.

No. 1012 is a discharge pump of sturdy construction with a capacity of 130 to 204 gallons a minute against 700 to 900 pounds pressure. It is widely used in mining and oil line work where long uninterrupted service is a necessity.

No. 1018 is a horizontal duplex gear-driven pump for suction service. Available in three sizes, 6, 8 or 10x18.

Full details gladly mailed on request.

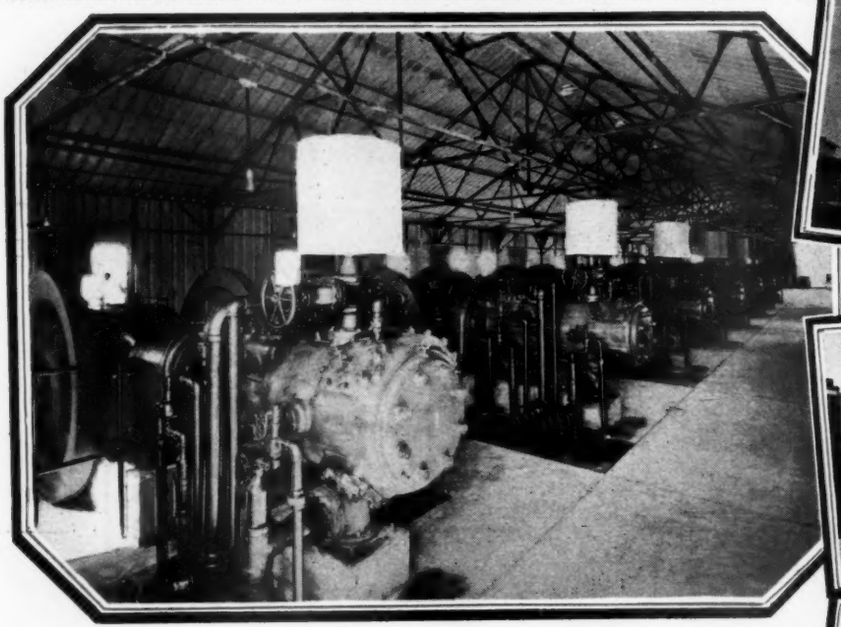
• • •

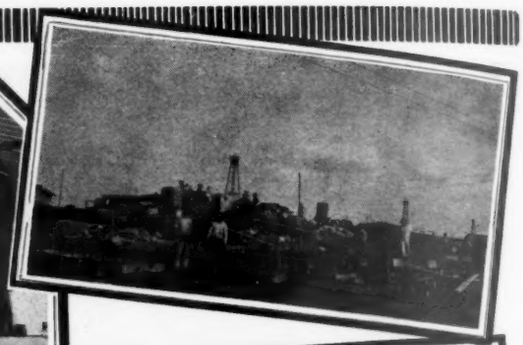
GASO PUMP & BURNER MFG. CO.
Tulsa · Oklahoma

Gaso No. 1018

Our 64-page catalog is yours for the asking.

GASO PUMPS
for every oil industry need





CLARK SUPER 2's
SAVE FUEL!

The CLARK Super 2-Cycle Compressor—which recently introduced the new idea of force-feed of fuel into the engine cylinder by means of our Fuel Injector—has demonstrated its ability to develop a given horse-power on *one-third less fuel.* The result is a compressor that combines the simplicity of 2-cycle design with the fuel economy of 4-cycle operation.

The recently completed plant here shown is that of the Eastland Oil Company, at Crane, Texas. Equipment is eight 90 H.P. CLARK Super 2-Cycle Tandem Compressors.

You can't afford *not* to investigate so great a fuel saving.

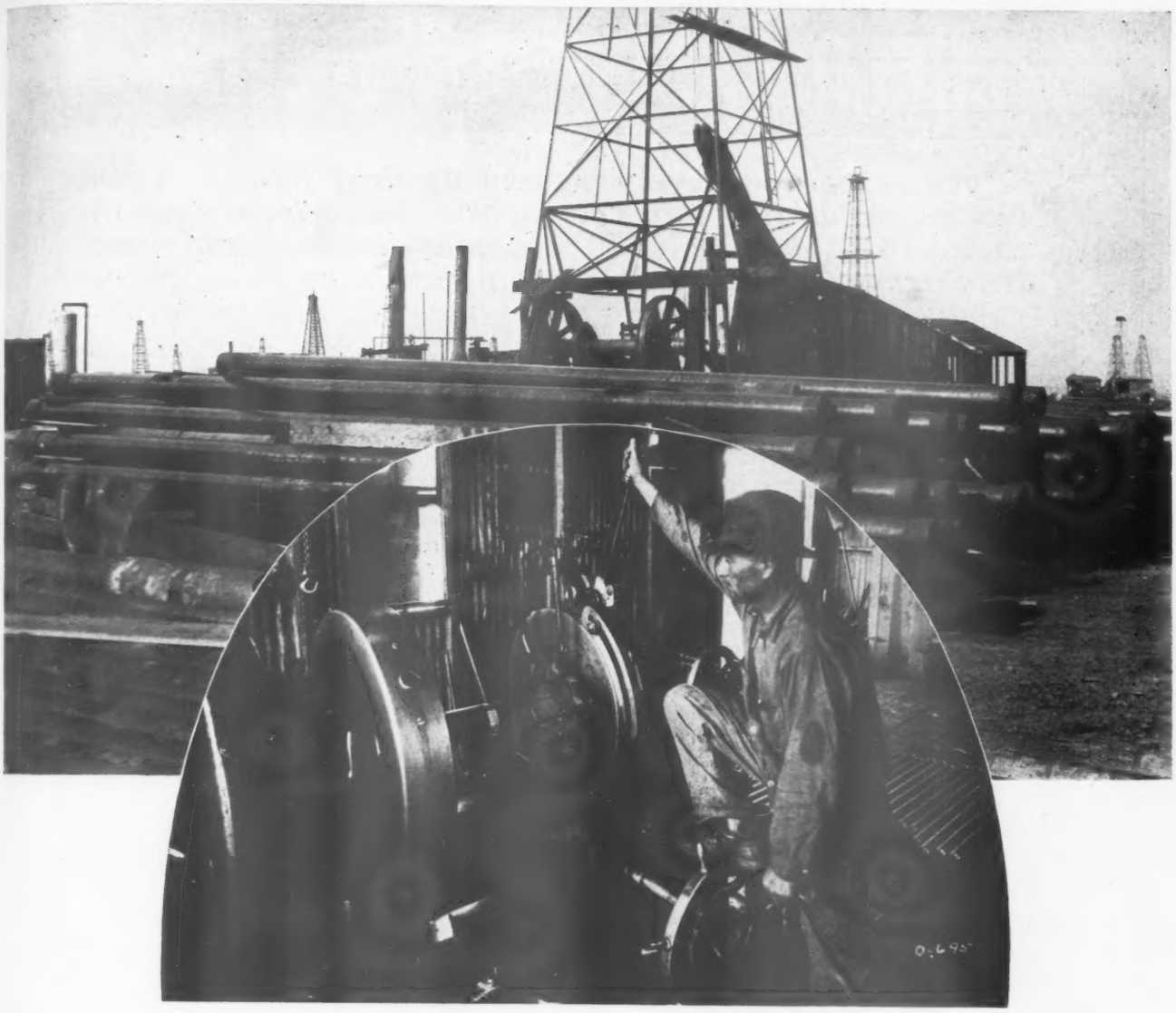
CLARK BROS. COMPANY
Olean, New York

Branch and Warehouse: 125 W. First St., Tulsa
Warehouses: McCamey and Sweetwater, Texas, and Artesia, N. M.
SMITH BOOTH USHER CO.
228 S. Central Ave., Los Angeles 50 Fremont St., San Francisco

Clark Bros. Co. OLEAN, N.Y.

CLARK

Say you saw it in The OIL WEEKLY



Business Built On Anything But Quality Seldom Endures

Quality of threads is absolutely essential in Oil Field Work. Badly formed threads of incorrect taper can cause thousands of dollars in waste of material, time and production.

Quality threads are cut only with Quality Pipe Machines—LANDIS. A census of the pipe shops owned by the leaders in the Oil Fields or pipe shops doing quality work prove this.

The Landis Chaser insures full tapered threads always. This is due to the distinctive design and the method of grinding. The Variable Cutting Angle of the Chaser can be ground to suit the pipe or casing, whether iron, steel, seamless tubing, new or re-run. The length of the chaser and the wide range covered by one set means low threading costs—and more profits.

Insure quality threads in your shop. Landis Pipe Machines and Landis Engineering Service are your guarantee.

Will you write us today of your requirements? At least ask for our catalog.

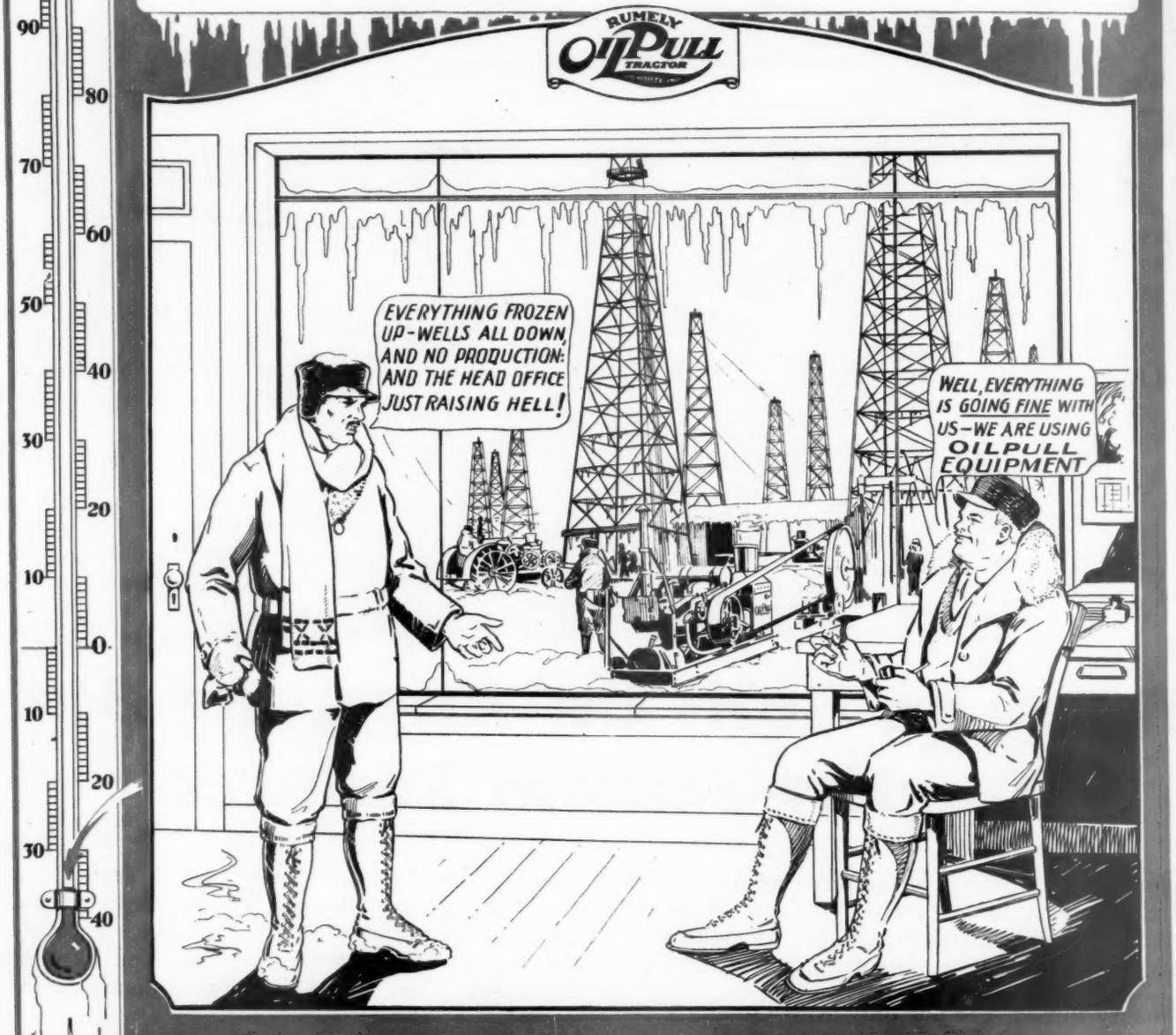
LANDIS MACHINE COMPANY, Inc., Waynesboro, Penna.

Detroit Office: 5928 Second Blvd.

Say you saw it in The OIL WEEKLY

36° BELOW ZERO! Let 'er freeze!

"... we are positively insured against frozen engine blocks, circulating tanks and water lines—for we use the famous OilPull, oil-cooled stationary engines and winch tractors on all our beam pumping wells, pumping power plants and for pulling all of our rods and tubing"


RUMELY
OILPULL
TRACTOR
EVERYTHING FROZEN UP-WELLS ALL DOWN, AND NO PRODUCTION: AND THE HEAD OFFICE JUST RAISING HELL!
WELL, EVERYTHING IS GOING FINE WITH US—WE ARE USING OILPULL EQUIPMENT

EVERY RUMELY OILPULL WINCH TRACTOR THAT HAS EVER BEEN SOLD IS STILL WORKING

Write FRED E. COOPER Phone 8904

TULSA, OKLAHOMA

KERO TEST

KEROTESTS

ARE MASTERS OF EVERY SITUATION

Whether in the field or in the refinery—whether it's high pressure or hot work, there's a Kerotest with ample margin of strength and endurance to meet your every emergency.

With a Kerotest Valve on your well or pipe line and the inspection certificate guaranteeing its perfect construction, in your pocket, you know beyond all doubt that your heavy duty valves can be entirely depended upon.

Built of high elastic, high tensile ilmenite electric steel, machined with precision to jigs and templates that assure alignment of all parts, Kerotests are truly the valve of no regrets.

KEROTEST MANUFACTURING COMPANY, Pittsburgh, Pa.

GRINNELL COMPANY OF THE PACIFIC
Los Angeles San Francisco

Carried in Stock and Sold by
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KERO TEST

U-S DISC BITS

Drilling economy is sure with the U. S. Disc Bit . . . it has cutting edge equal to 6¼ fish-tails . . . smooth action on the pipe . . . doesn't strain the rotary table bearings and draw works . . . is adaptable to hard and sticky formations . . .

Positively is the fastest hole-maker you can use for all around conditions. 97 per cent of those who have used it have placed repeat orders.

Try it yourself and be convinced. Write Today for prices.

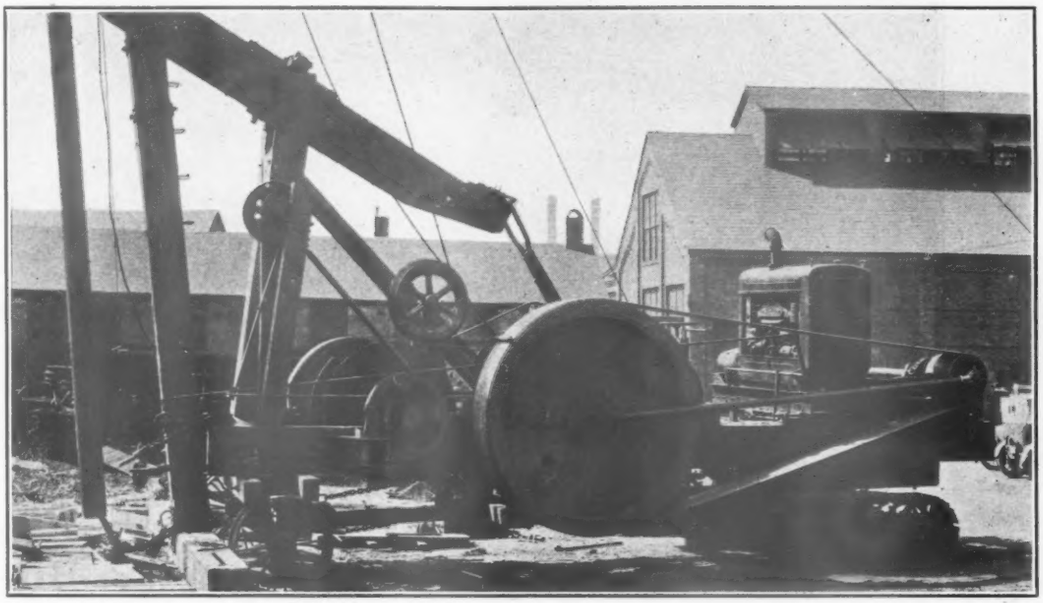
U-S TOOL CO.

Manufacturers of Oil Well Tools

Long Beach California

Nothing is apt to cost so much as a bearing that cost so little

You men who plan, build, use or pay for machines of any kind, remember this: It costs more to replace a poor bearing than to buy the best one that SKF ever produced. And SKF Anti-Friction Bearings are the highest priced in the world.



Where Liquid Dollars Flow— SKF Bearings Keep Machinery Going

OUT in the oil fields, where time is often at a premium, SKF Ball Bearings can be depended on to keep equipment going, even under the most severe conditions. Not only do these bearings insure smooth and easy operating machinery but they possess the stamina and ruggedness so necessary on applications of the type shown.

First cost was not the consideration which influenced the choice of SKF Ball Bearings for this job. Reliability and long life were factors of far greater importance. And that is why these bearings were chosen because of a proven record, not only in the oil fields but in many industries throughout the world.

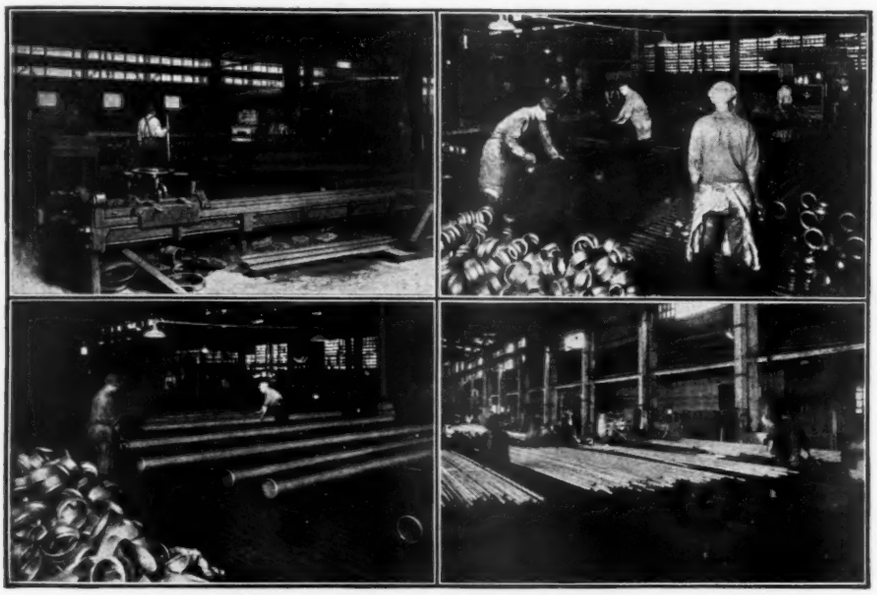
SKF INDUSTRIES, INCORPORATED, 40 East 34th Street, New York

SKF

Ball Bearings SKF Puts the Right Bearing in the Right Place **Roller Bearings**

1958

MAKING GOOD IN THE FIELD MAKES FRIENDS FOR WHEELING!



Wheeling Inspection is thorough. The accuracy of threads on pipe and couplings is systematically checked against working gauges. Each individual threaded end and each coupling is checked and verified with a gauge. No expense has been spared to insure a high standard of perfection for all products.

Making Sure That Wheeling "Gets Down To Business"

INSPECTING Wheeling (LaBelle) Oil Country Goods is a business in itself—a business of training men to the standards of Wheeling practice—a business of maintaining the most efficient testing equipment, working gauges and other apparatus—a business of providing an adequate organization to insure a high standard of perfection for all product from mine to market.

By treating the inspection of its products as a business—a specialized industry in itself—Wheeling gets results that mean dollars to drillers. When Wheeling (LaBelle) arrives, it means "get down to business"—*freedom from grief!*

Wheeling Steel Corporation, Wheeling, W. Va.

"From Mine to Market"

WHEELING STEEL

WHEELING

CASING • TUBING • LINE PIPE

Its tested chain *will* stand the strain.

3 Strong Points where strength is needed

Rotary drillers know the stress and strain back-up tongs must withstand. The chain, jaws and handle are mighty important points—and they're the *strong points* of Williams' "Vulcan" Back-Up Tongs.

"Vulcan" chains are proof-tested to *two-thirds of their breaking strength* and CERTIFIED. The handles are drop-forged. They're short and stubby, just the right length for the rotary. Jaws are fastened by an extra-size through-bolt and U. S. Standard nut. They cannot spread or work loose.

"Vulcan" Back-Up Tongs are tough tools built to handle tough jobs. They are doing them in every oil field in the country.

J. H. WILLIAMS & CO.

"The Wrench People"

New York BUFFALO Chicago

GENUINE WILLIAMS

SUPERIOR DROP-FORGED TOOLS

"VULCAN" BACK-UP TONGS

OCS

OIL COUNTRY SPECIALTIES

CHAIN DRIVEN SAND REELS
For Cable Tool Drilling

COUNTERSHAFT CLUTCHES
Gearless Reversible

EQUALIZERS
Bandwheel Counter-balances

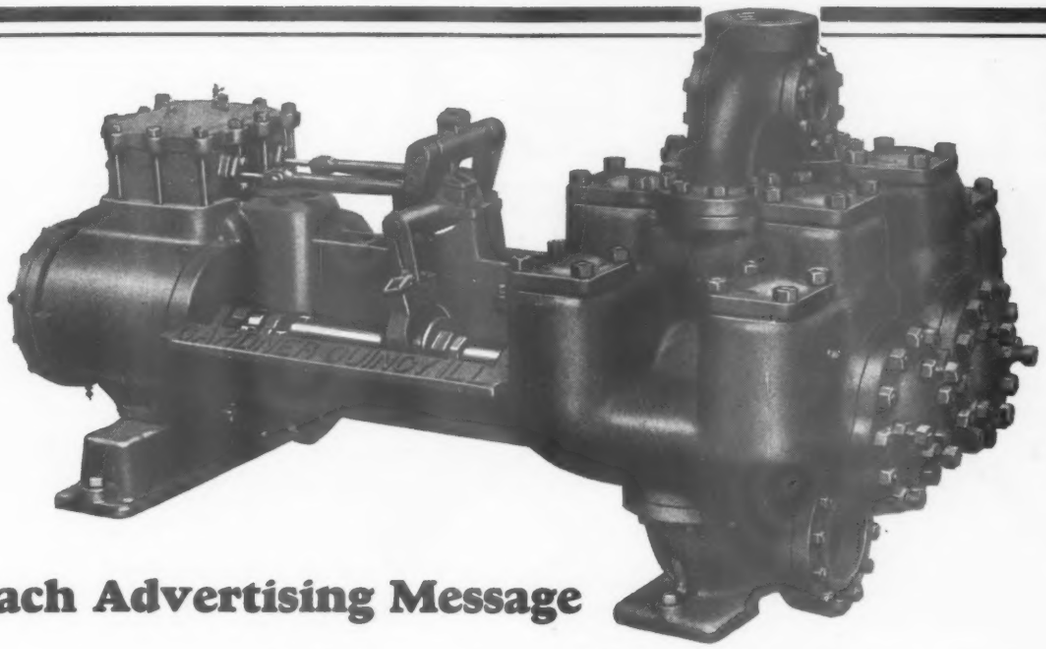
REDUCTION UNITS
For Electric Motors

These successful Oil Country Specialties are built by successful Oil Country Specialists for Drilling and Pumping Deep Wells with Standard Rigs.

THE OIL COUNTRY SPECIALTIES MFG. CO.

COFFEYVILLE, KANSAS

Say you saw it in The OIL WEEKLY



Each Advertising Message

displays one or more of the standard machines or tools sold by

NORVELL WILDER HARDWARE CO.

BEAUMONT HOUSTON SHREVEPORT FT. WORTH

"Stop that Drill!!"

. . . . yelled Big Ed

The Jones Company drilling crew is racing neck and neck with crew of off-set well. Rain, mud, cold, sleet does not slow them down. One hundred feet from the pay sand. The old pump begins to go bad. A half a dozen different things are needed. They are drilling cautiously, afraid of a breakdown at the last minute.

"Stop that drill," yelled Ed, the head driller.

Quiet follows this rough command.

"That pump will blow any minute," said Ed. "If we want to win the hats the boss promised us and beat that other bunch, we can't take any chances. We can't afford a breakdown during the last few feet. If that bunch over there beats us to the sand, we'll all deserve to get canned. Call NORVELL WILDER. That's a place where we can get what we want when we want it. Order this list from them and have one of their men come over tomorrow if he can."

The new pump was connected in the morning. The weak spots were strengthened. Big Ed gave orders to "Go the limit."

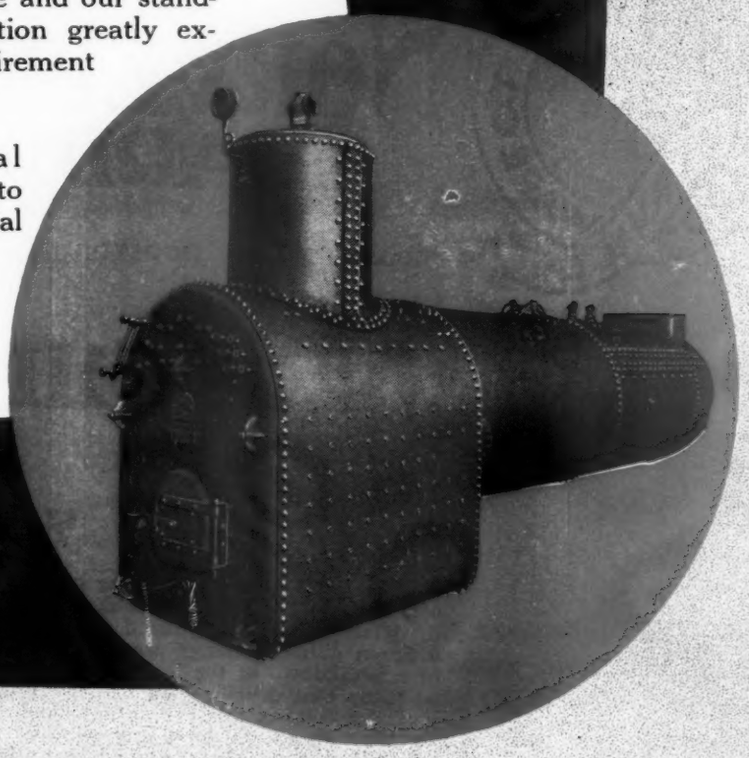
Slowly but surely they caught up to their competitors. The NORVELL WILDER man came by the next day. Everything needed was ordered for bringing in the well. Not a hitch anywhere. The well was brought in without loss of oil. Each of the crew got a new hat.

When in doubt, and every other time,
Call up NORVELL WILDER

Titusville Acme Oil Field Boilers

Noted for Boiler and Fuel economy Acme Oil Field Boilers are truly the acme of boiler construction, design and workmanship. The riveted construction is the best that modern methods can produce and our standard test and inspection greatly exceeds the rigid requirement of the A. S. M. E.

The Continental Man will be glad to show you its special advantages.



The TITUSVILLE IRON WORKS Co.
TITUSVILLE - PENNA.

SOLE DISTRIBUTORS
The CONTINENTAL SUPPLY COMPANY

For THE CONTINENTAL
72-76 Trinity Court

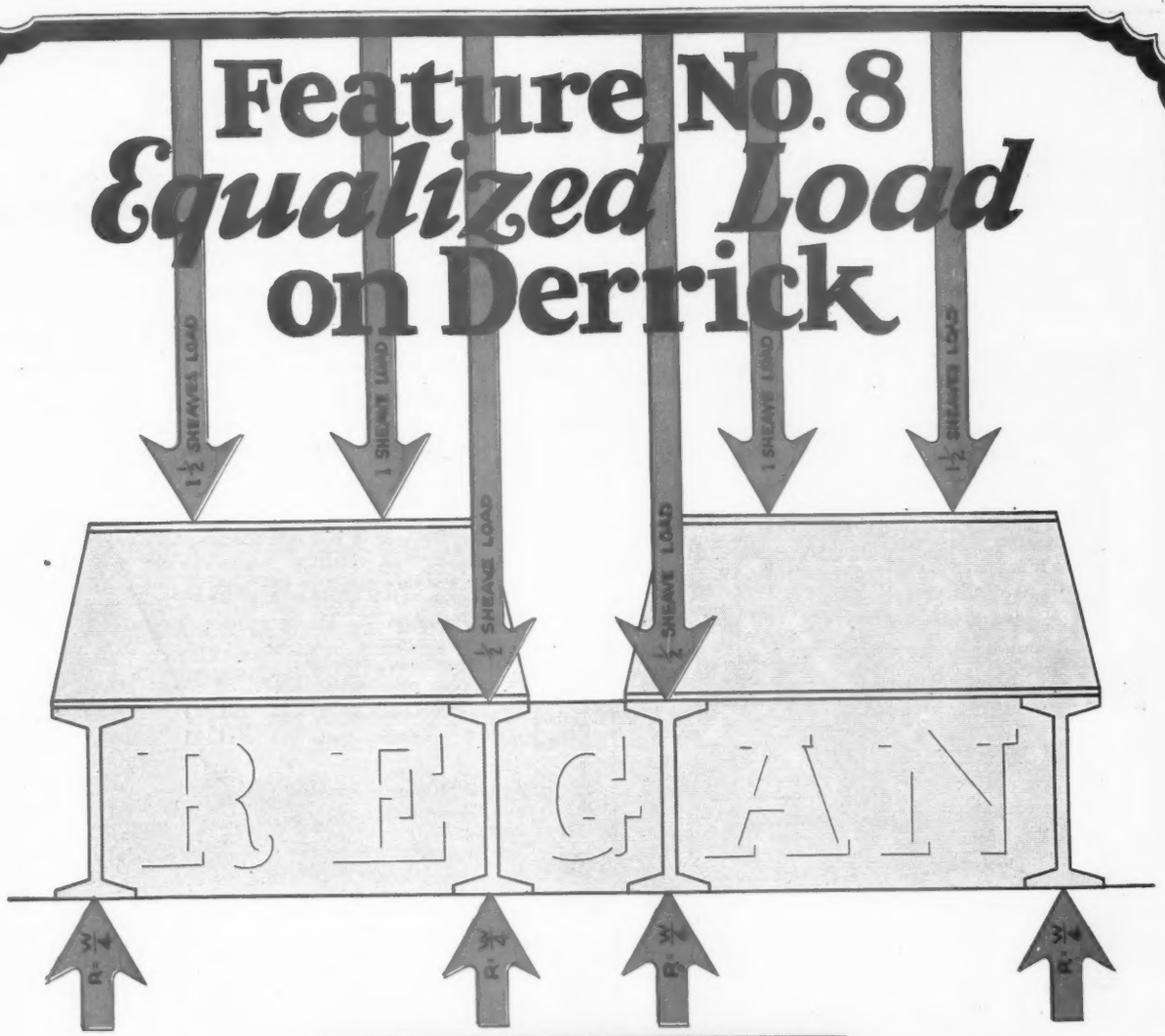
Export
WELL SUPPLY CO.
New York City, N. Y.

Titusville
Acme Boilers
Single and Twin
Steam Drilling Engines
Tico Gas Engines
Band Wheel and
Geared Powers

Titusville
Acme Rotaries
Acme Swivels
and Speed Draw Works
High Pressure Boilers
Crown Blocks
Slush Pumps

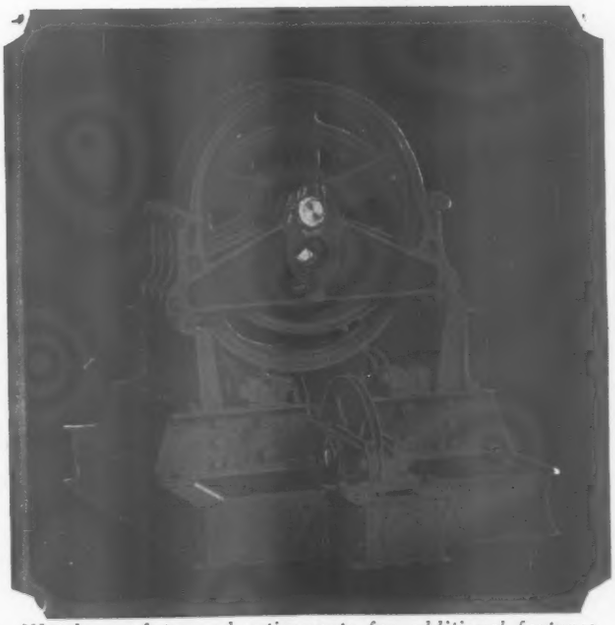
RUGGED - ENDURING

Feature No. 8
Equalized Load on Derrick



Regan's *New* Crown Block

Write for pamphlet which describes the many features and illustrates the improved way of stringing up a Crown Block.



Construction of the Regan Crown Block provides equal distribution of the load to the four legs of the derrick. Regardless of how much load is carried on the Crown Block it is distributed equally, because of the alternate setting of Cross Beams, preventing strains upon any part of the derrick.

Regan Forge & Engineering Co. San Pedro California

Watch our future advertisements for additional features.

Houston, Texas,
1521 Post-Dispatch Bldg.

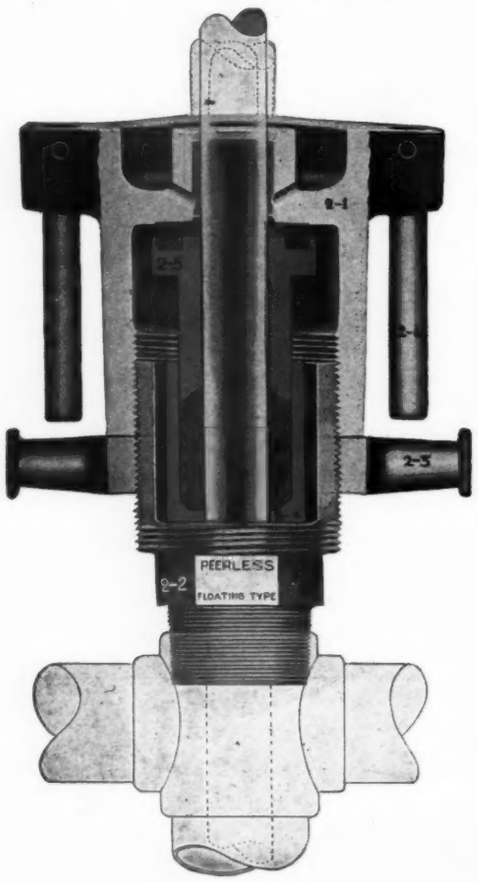
Oklahoma City, Okla.
531 W. Main St.

Odessa, Texas,
Pampa, Texas

New York City,
75 West St.,
Wm. Braat, Manager

Maracaibo, Venezuela
Wm. Adams, care Amer. Consul

WHAT YOU'VE BEEN SEEKING



You may not know it—but the Peerless (Floating type) Stuffing Box is what you've been seeking. It was designed to overcome your stuffing box troubles.

It is a box that does not leak. The "insides" conform to the stroke of the polish rod, giving the same effect as a straight pull jack. The rings cannot wear oblong. The box has ten to twenty times longer life than those of other makes. It is reliable and efficient—worthy of your attention. Write, wire or call—we will be glad to give you complete information.

Peerless

SUPPLY COMPANY

Tulsa, Okla.

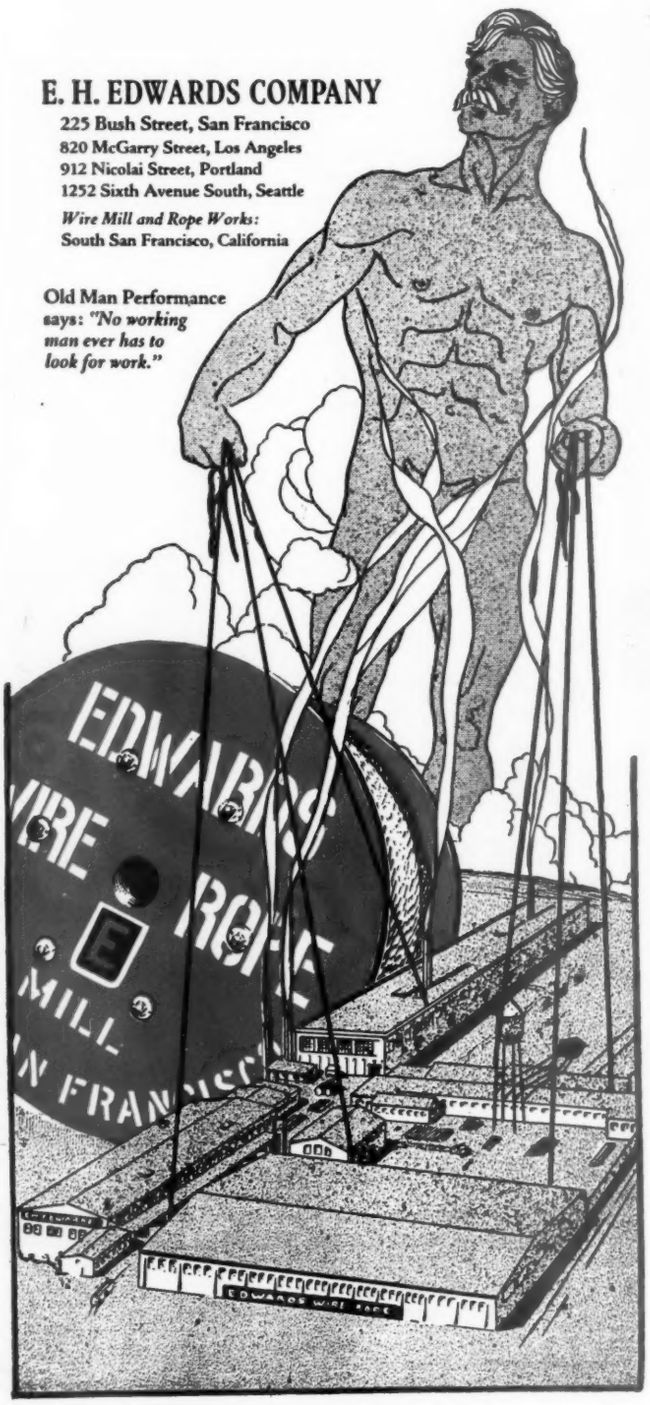
Our Mill Boss is ~OMP

Standing over every move we make is Old Man Performance. He hits hard, and often, he smiles rarely but he totes square. He's a hard boss in a hard game but we would not work for any other.

Our products prove our motives.

E. H. EDWARDS COMPANY
225 Bush Street, San Francisco
820 McGarry Street, Los Angeles
912 Nicolai Street, Portland
1252 Sixth Avenue South, Seattle
Wire Mill and Rope Works:
South San Francisco, California

Old Man Performance says: *"No working man ever has to look for work."*



Say you saw it in The OIL WEEKLY

Greater Fuel Economy, More Power, Increased Smoothness—

in Type Tens Equipped with Gas Economizer

OPERATED either as a straight two-cycle power plant, or with the Bessemer Gas Economizer, the Bessemer Type Ten offers unmatched compressor value—in its construction features, in economical performance and in investment economy.

Equipped with the perfected Bessemer Gas Economizer, the Type Ten has the fuel economy of a four-cycle unit, while retaining its characteristic two-cycle simplicity. Test after test shows a fuel consumption of 11 cu. ft. *or less* per B. H. P. hour.

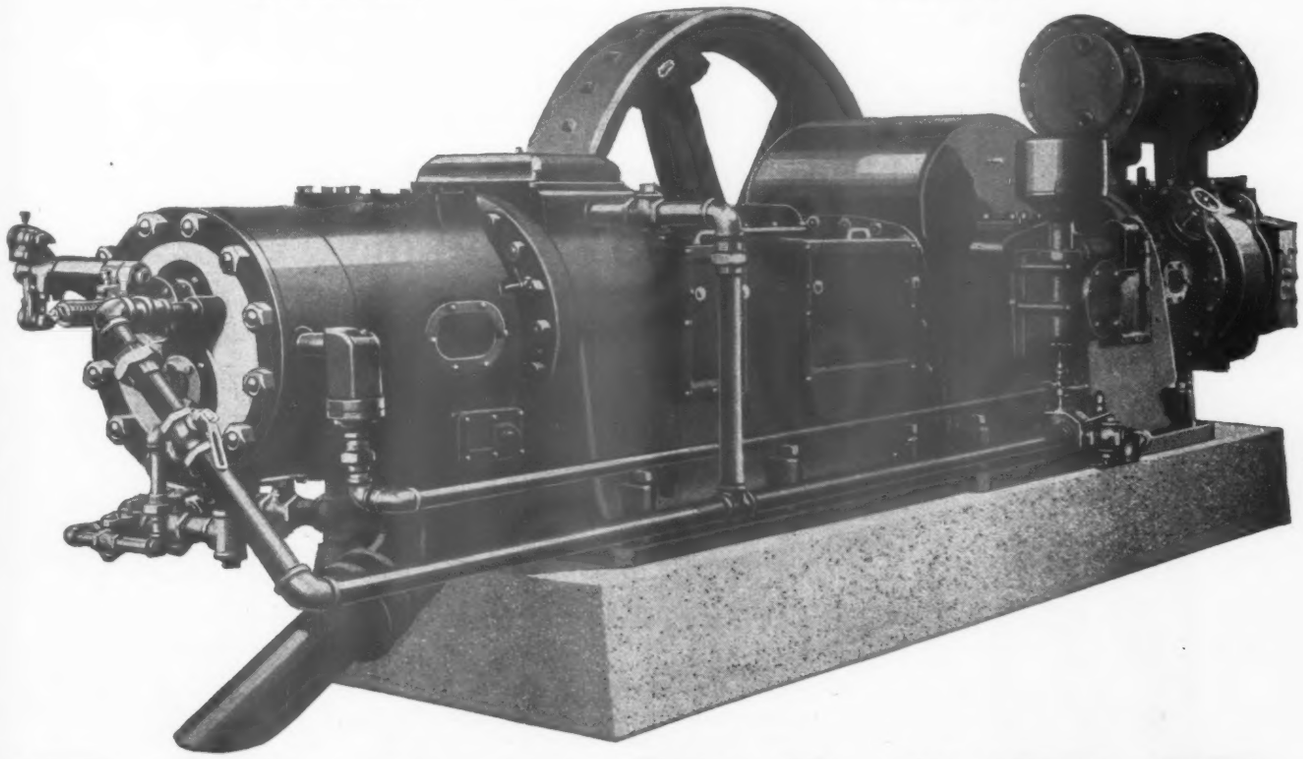
Due to the method of fuel injection, resulting in a form of surcharging, the Gas Economizer equipped Type Ten is able to develop an appreciably greater horsepower output per cylinder—and with the lower fuel gas consumption.

While the standard Type Tens are unusually easy-starting, the Gas Economizer makes starting still easier—*because the gas may be injected at the first revolution of the engine.*

The economy of this four-cycle fuel consumption with two-cycle simplicity is possible in any standard Type Ten unit, merely by attaching the Bessemer Gas Economizer, which is a simple, inexpensive job. Once attached, the unit may be operated either as a standard two-cycle engine or with the economizer, as conditions may warrant.

For full details ask any Bessemer branch office, or write direct to the home office at Grove City, Pa.

THE BESSEMER GAS ENGINE COMPANY
62 York Street ∴ ∴ Grove City, Pa.

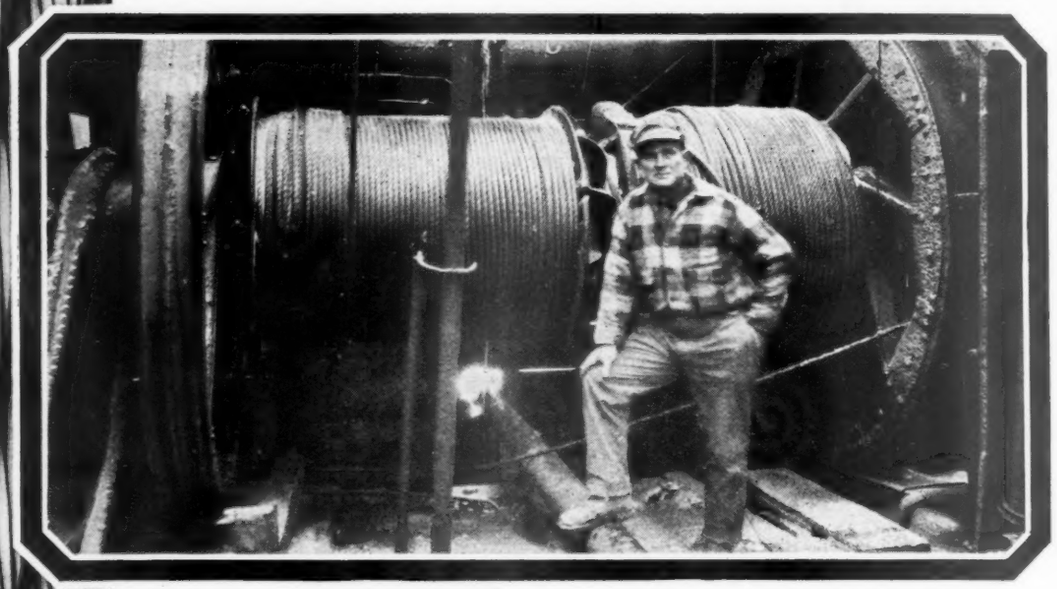


BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Say you saw it in The OIL WEEKLY

AMERICAN WIRE LINES



Second Deepest Well in Mid-Continent Drilled With American Wire Line

The photograph shows the wire line used in drilling the second-deepest well in the Mid-Continent—a Roxana-Skelly well in Garfield County, Oklahoma.

American Wire Lines dominate in the Oil Industry through sheer dependability. The unique research, manufacturing and testing facilities of the American Steel & Wire Company render possible the production of wire of *uniform* specifications—and the manufacture of lines that measure up to definite standards of strength and durability, without accidental variations.

"If CONTINENTAL Sells It, There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: St. Louis
Export Office: 74 Trinity Court, New York
London Office: 316-317 Dashwood House, Old Broad St., E. C. 2
THE CONTINENTAL SUPPLY COMPANY, LTD.,
69 Thomas Block, Calgary, Alberta, Canada

CONTINENTAL

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January 6, 1928

The OIL WEEKLY

Edited Weekly at Houston, Texas

SPENCER W. ROBINSON, Editor

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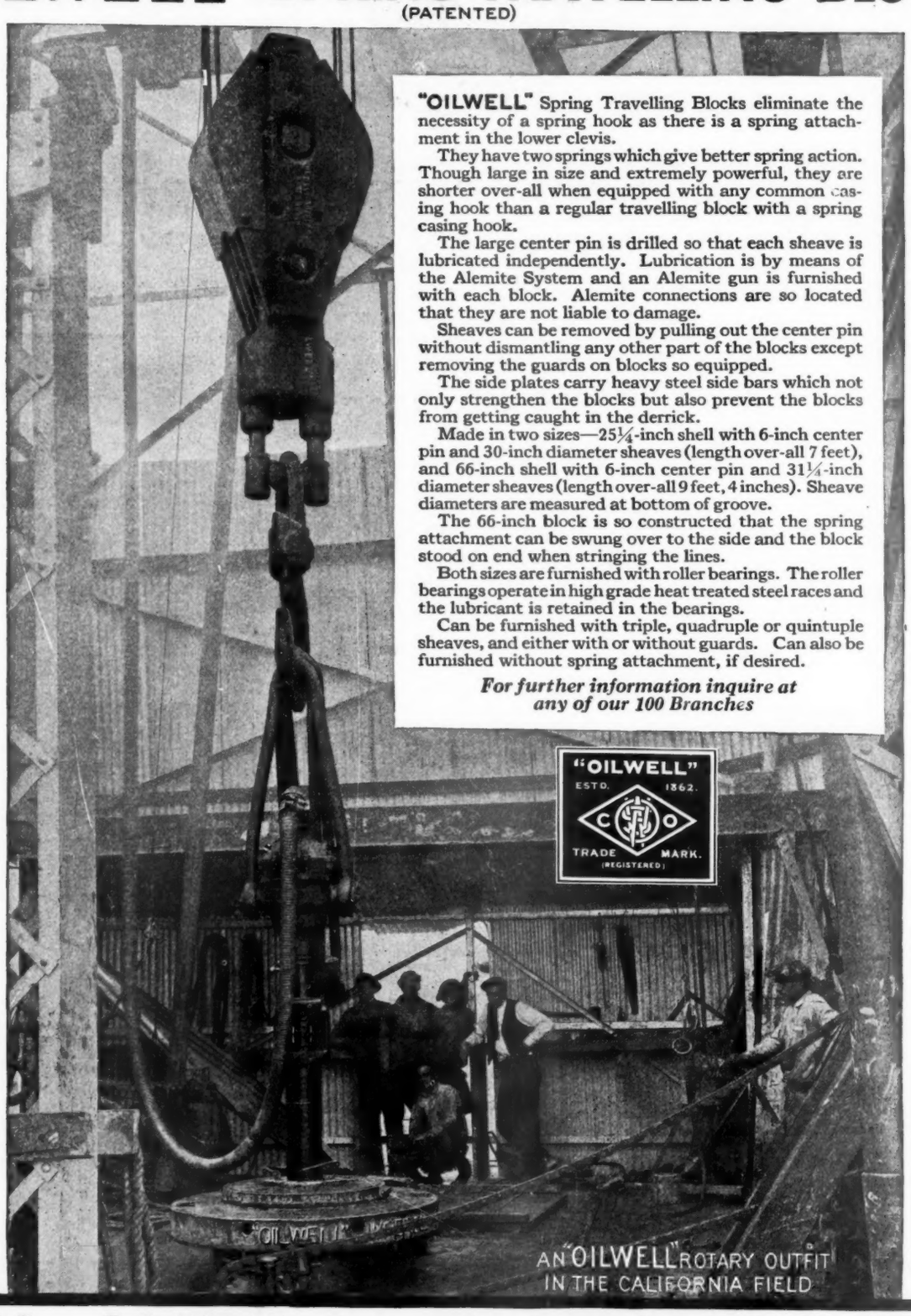

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

General Production Decline Continues

By KENT RIDLEY

CONTINUATION during the last week of 1927 of the downward trend of production which has been in progress with but few interruptions since the first of August, brought the average for the week within 150,000 barrels daily of the average for January of last year, which was the low point of the period.

That the season and weather conditions influenced the record for the week appears probable when statistics on field operations are considered, as the number of new wells completed and others started, are both far under the average of recent weeks.

The five pools of the Seminole area show a loss of 5,900 barrels from the total of the week previous, with each pool contributing a share of the loss. Increase of 1,750 barrels at Burbank and in the smaller fields of Oklahoma, however, reduced the total decrease for the State to only 4,500 barrels.

The several districts of Texas contributed consistently to a loss of 9,600 barrels recorded in that State. In the Panhandle the change was from 83,900 barrels a week ago to 80,250 for the current week. Crane-Upton and Winkler Counties in West Texas had the principal losses which brought the total for the district to 260,600 barrels as compared with 264,450 a week ago. Changes in the other departments of Texas were negligible, but all downward.

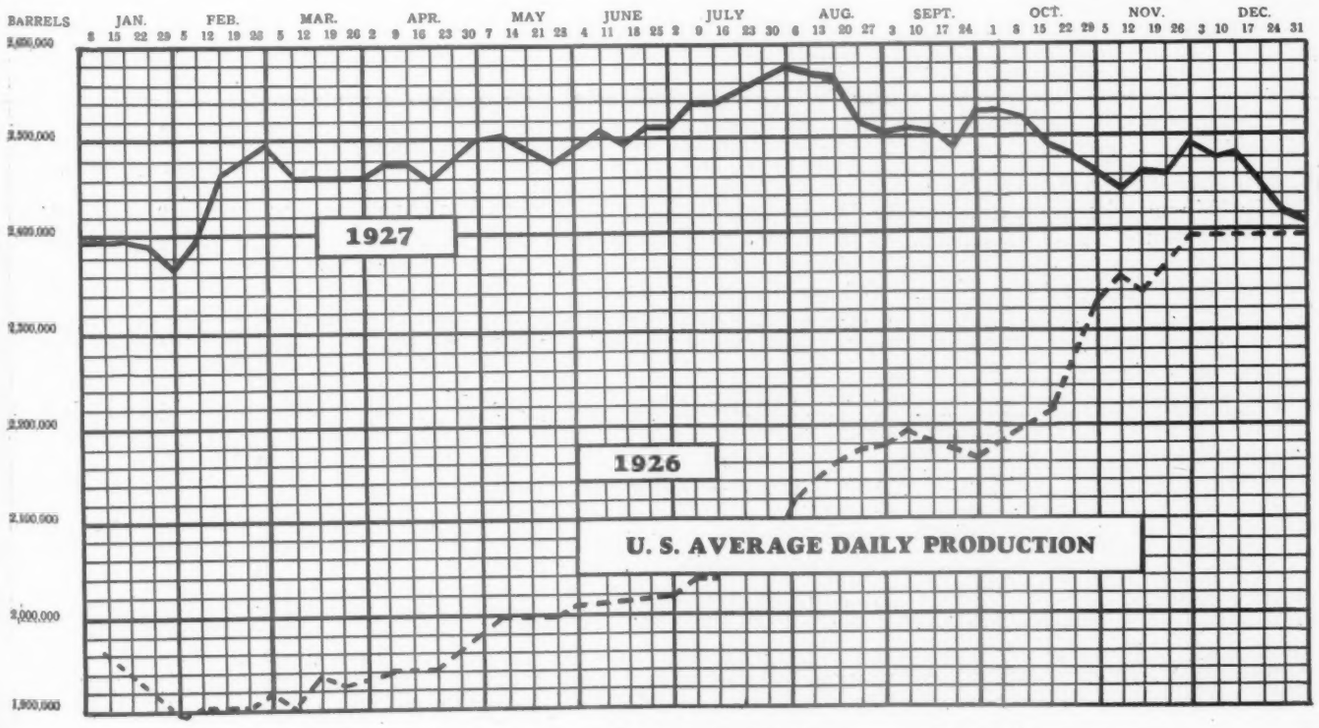
Long Beach with a net gain of 5,000 barrels was the influence which placed the average for California 3,500 barrels daily above the mark of the previous week. Most of the California fields maintained their output unchanged, with Huntington Beach, Seal Beach and Dominguez showing slight losses, and Ventura Avenue up 500 barrels per day.

Kansas was up 2300 barrels, the second small gain in as many weeks; the increase coming from the smaller fields of the State.

Other sections recording losses, include the Rocky Mountain area, down 2800 barrels; Arkansas, down 1000 barrels, and Louisiana down 400 barrels.

Total for the United States, as estimated by the American Petroleum Institute, for the week ending December 31, was 2,419,750, of which 1,719,700 was east of the Rockies. The United States average was 12,450 barrels under the previous week.

UNITED STATES CRUDE PRODUCTION TREND



Details of United States Production Estimates on Page 27

Week's Completions Have Large Initial Average

Texas accounts for 71,000 of 90,000 barrels new oil added; permits issued are more than for previous week

By JACK LOGAN
Staff Representative

IN spite of the fact that little more than half as many oil producers were completed during the past week, as compared with the number for the previous week, the amount of new oil that was added was greater, due largely to the completion of three unusually large wells in the Yates field, Pecos County, Texas.

The total number of tests completed in the United States during the week was 241, including 120 oil wells of a combined initial production of 90,238 barrels. During the previous week there were 359 completions, including 208 producers of a combined initial of 72,541 barrels. Gas wells completed during the week numbered 43, a decrease of two, and there were 78 failures, a decrease of 28.

In Texas the total amount of new oil added during the week was 71,427 barrels, a high percentage of the United States total, and all of this was from 36 wells. The 35 producers that were completed during the previous week had a combined initial of approximately 50,000 barrels.

West Texas

West Texas, alone, accounted for approximately 70,000 barrels of initial production, nearly all of the new oil of the State. And of this West Texas total the Yates field accounted for about 64,000 barrels, which was the combined initial of only seven wells. The largest of the seven was Mid-Kansas-Transcontinental's Yates 17-B, the initial production of which was 22,800 barrels, the depth of the well being 1075 feet. Next in size was Gulf Production Company's M. A. Smith 4, an 18,000-barrel well at 1425 feet. The third of three largest wells of the week in the field was Osage Oil Corporation et al's Halff 1, which, at 1051 feet, had an intial of 12,000 barrels. All sections of the state outside of West Texas showed the effects of the holiday lull. The status of drilling operations in West Texas on Wednesday of this week varied only slightly from that of a week earlier, a survey showing 142 wells drilling and 30 rigs up, while at the same time the previous week 136 wells were drilling and 43 rigs were up.

Oklahoma

There was nothing out of the ordinary in the drilling activity in Oklahoma during the week, approximately the same number of producers being completed as during the previous week, and with about the same amount of initial production. The total number of tests finished was 59, including 28 producing oil wells of a combined initial of 10,580 barrels. In the Seminole area, 130 wells were drilling on Wednesday of this week, and 10 rigs were up; while at the same time last week 139 tests were drilling and nine were rigs.

Kansas furnished 4085 barrels of new oil during the past week from 15 wells, as compared with 1980 barrels from six producers during the previous week. The high light of Kansas activity was the completion of a 3230-barrel well by Roxana Petroleum Corporation at Oxford, the Emerich 4.

California experienced a decided slump in activity, furnishing only 1840 barrels of new oil through the completion of eight producers, as compared with 7195 barrels from 15 wells during the previous week.

In Louisiana seven new wells had a combined initial production of 1633 barrels; during the week before, four wells furnished only 180 barrels. Only one producer, a 25-barrel well was completed in Arkansas, whereas during the previous week there were four new wells with a combined initial of 2235 barrels.

Permits

During the week ending December 31, the total number of drilling permits issued by the principal oil producing States was 240, as against 213 for the previous week. Texas issued 105, or two more than during the week before; Oklahoma 71, as against 42; Kansas 28, as compared with 15; Louisiana 7, a decrease of four; California 25, decrease five; and Arkansas four, increase of one.

The 240 permits brought the total for the United States during 1927 up to 16,149, as against 25,483 for the year 1926.

DETAILS ON CRITICAL FIELDS

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Production Per Well	Rigs Up	Wells Drilling
TEXAS PANHANDLE—								
Hutchinson County	1,082	542,855	502	975	52,750	54	9	21
Gray County	179	68,525	382	176	18,560	105	11	45
Carson County	177	58,695	332	153	7,630	50	....	5
Wheeler County	41	14,170	346	33	1,285	39	4	8
Totals	1,479	684,245	462	1,337	80,225	60	24	79
WEST TEXAS—								
Church & Fields	174	197,960	1,138	170	80,770	475*	2	9
Gulf-McElroy	55	49,700	904	55	17,955	326	....	2
Hendricks	39	118,350	3,035	43	55,760	1,297*	10	81
Yates	108	670,170	6,205	104	47,775	459*	18	50
Totals	376	1,036,180	2,756	372	202,260	544	30	142
OKLAHOMA—								
Seminole	1,199	1,522,544	1,269	1,062	338,686	318	10	130

*Production partially pinched.

Completion Details, page 62; Permits for New Wells, page 66.

Market Situation Is Looking Better in Oklahoma

North Texas producer building 18-mile line to deliver million barrels at 60 cents; rain cuts consumption in Sunny California

TULSA.—Seminole, the chronic crude market disturber, did its share toward alleviating the congested situation last week by falling off 30,000 barrels from the output of December 27, one week previous. Cold weather, which stands responsible for a great part of the market weakness by cutting consumption of refined products, stepped in to right to an extent the wrong, by being the leading factor in this production loss. For the second time within the past six weeks, extremely cold weather has cut a swath in this great area's output.

Talk of better crude prices is heard throughout the Mid-Continent, but leading authorities on the situation, talking on bare facts, fail to see how it is going to be done soon. An average of 150,000 barrels of crude is going to storage in Oklahoma daily, and operators fail to see how the rise in price is going to come in the face of this.

True enough, the situation generally is looking better with Seminole continuing on its decline, and no area in this territory looking like it might resemble, much less equal it. Of the 150,000 barrels running daily to storage, approximately 37,000 barrels is going into Seminole storage. There was 5,453,530 barrels of vacant storage at Seminole late in December, and 2,350,500 barrels on location, grades or building. With this situation, the runs to storage at Seminole are expected to decrease all along now, provided pipe lines do not see fit to cut their runs. Near the close of the year, stocks in the Seminole area totaled 18,481,470 barrels.

Early this week Barnsdall Refining Company cut the price of retail gasoline two cents at its Oklahoma stations outside of Tulsa and Oklahoma City, at which points the price was already 14 cents at stations. The two-cent cut brings station prices at other points to 16 cents. Early last week the Shell Gasoline Company purchased 17 filling stations from the Cushing Sales Corporation, a subsidiary of the Cushing Gasoline Company, which is controlled by the Mullendore interests. This move indicated that the Shell is bidding for strong retail business in Oklahoma, Arkansas and Texas, over which territory the 17 stations are located.

An export shipment of Mid-Continent gasoline during the past week that is of significance was a train of tank cars carrying 250,000 gallons being moved by the Shaffer Oil & Refining Company. The product was 64-65 gravity, 375 end point.

Prairie Pipe Line Company has just recently completed six 80,000-barrel steel storage tanks on its Ringling, Oklahoma, tank farm, for the purpose of storing Panhandle, Texas, crude.

The Oklahoma Pipe Line Company is reported moving around 30,000 barrels of crude daily from Southern Oklahoma to Southern Arkansas, there turning the oil over to the Standard Oil Company line for movement to the latter's Baton Rouge refinery.

Another arrangement for crude shipment recently completed is that of the Independent Oil & Gas Company in its project to move approximately 30,000 barrels of West Texas crude daily by way of an eight-inch line now under way from its Winkler County production to the Texas Pacific Railway, and thence to New Orleans, to fill a recent contract with the New Orleans Refining Company.

FORT WORTH, TEXAS.—A number of independent companies and operators in the Crane-Upton section of West Texas now being served by the Humble Pipe Line Company have been asked to sign contracts to sell their crude production to Humble Oil & Refining Company for a period of three years, or terminate present connections. This plan is not meeting with general approval of the small producers, and a number of the latter group is making arrangements to store their oil or organize a joint pipe line to distant railroad rack sites. Humble's order was to become effective January 1, 1928, and a few connections were automatically severed on that date, while other producers have requested more time to go into the merits of Humble's proposed contract, or to amend same for a shorter period.

Humble is seeking in excess of 20,000 barrels of crude daily in the above two counties on three-year contracts, and did not attempt to make the order apply to all connections in the district. The pro-ration plan in the Yates field would not permit Humble to invade this flush oil area with crude contracts, while Humble is not in a position to take on outside crude connections in the Hendricks field at the present. The group of properties selected by Humble to obtain a three-year crude contract cannot switch to other connections, as the recent withdrawal of the Southern Crude Oil Purchasing Company as a crude buyer left the district dependent upon Humble for a direct pipe line outlet.

The encroachment of water in the Hendricks field, Winkler County, continued to spread over the past week to new wells, and producers are equipping their leases with treating plants to handle the cut oil as produced. Some success has been had with holding down the percentage of cut oil by pinching the big wells, but this is only temporary relief, and plans are going forward to produce as much oil as possible from the field as fast as disposition can be made of the oil. New pipe lines and new tanks were ordered built during the past week.

The crude price on Hendricks field oil is being cut below the posted quotation of 60 cents per barrel at the well by independent producers in order to create a tank car market for their oil. Landreth Production Corporation has contracted to deliver 1,000,000 barrels of Hendricks field crude to New Orleans Refining Company at a flat price of 60 cents per barrel loaded on buyer's cars. Landreth is building 18 miles of six-inch line to a car rack on Texas & Pacific Railroad at Monahans to make deliveries on this contract beginning early in February.

LOS ANGELES—After a lull of two weeks, the Long Beach field registered rather heavily with two large completions in the deep zone. The popular theory that only small wells will be completed near the center of the field, where the sand apparently has been depleted considerably, was given a reversal following the completion of a 3250-barrel well on one of the best inside leases. Another large well was completed in the extreme eastern part of the field. The new producer extended the producing limits of the deep zone considerably and will have an important bearing upon future locations. Estimates of the peak production of the field have been revised and it is generally agreed that 150,000 barrels is too small. A dozen wells should be completed

(Continued on page 42)

Humble Seeks Three-Year Contracts In West Texas

Producers who do not accept terms of sale for three years at company's price are to be denied pipe line connection

By H. H. KING
Staff Representative

FORT WORTH, Texas—The Humble Oil & Refining Company is asking a number of operators now served by the Humble Pipe Line Company to a limited extent in the Crane-Upton section of West Texas, to sign an agreement to deliver all oil produced from such leases at the Humble's posted price for a period of three years beginning January 1, 1928.

Failure to comply with this request, which was sent in the form of a personal letter to the operators, according to the company, will mean the immediate suspension of all pipe line connections by the Humble effective January 1. This order has since been enforced to some extent in the Church and Fields area.

Small operators in the Church and Fields area were made the principal targets by Humble in demanding the long time contracts on crude runs, and only a few signed contracts have been turned in by producers, while the majority have announced that they will not surrender the control of their crude disposition for such a period to Humble. The principal objection offered by the small companies and operators against the Humble crude contract is that the buyer dictates the price to be paid for the oil, and such a contract virtually kills all chances to make a sale of the properties to other companies seeking West Texas crude.

A storm of protest has been made to officials of Humble Oil & Refining Company by many of the operators affected by the new crude buying plan in the Crane-Upton district, and a few have made personal visits to Houston without relief being obtained from the order.

Officials of Humble state that their reason for wanting such long time crude contracts is to assure a future supply of oil for the six and eight-inch lines now gathering oil in the Crane-Upton district, extending as far north as the Church and Fields area. Production in this area is now available for contract over a long period from other producers not served at present by Humble Pipe Line Company, according to Humble officials, and it is necessary to fortify its position by making such contracts.

Want 20,000 Barrels

More than 20,000 barrels of production daily is being sought by Humble for a period of three years from the Crane-Upton district. A maximum of 20,000 barrels daily, or the amount produced, is now being sold under contract until April 1, 1940, to Humble from the Big Lake field at the average Mid-Continent gravity scale prices. The Big Lake crude contract fills one-half of the capacity of Humble's double eight-inch trunk line extending from the field via Comyn to the Gulf Coast, and an effort is being made to fill the other half with long time contracts from the Crane-Upton district, thus leaving Humble's combination 10 and 12-inch line extending from Kemper station, near the Big Lake field, to tanker terminals at Corpus Christi to handle oil from the Yates and Hendricks fields.

The Pecos Oil Company, which is largely owned by Frank T. Pickrell and Carl Cromwell, discoverers of the Big Lake field, is reported to have been the first concern in the Church and Fields area to lose a pipe line connection under Humble's new order. The Pecos Oil Company is producing about 4700 barrels daily, but was prorated to 2000 barrels daily by Humble, with the balance going to field storage. The Eastland Oil Company and J. D. Collette-O'Keefe property was also selected by Humble for a three-year contract, as eight wells on this 80-acre lease are making about 5400 barrels daily, but prorated to 5000 barrels maximum daily by Humble. A contract has not been accepted by these latter interests, and more storage will be erected shortly, if necessary. George Church, Bob Fields and Bert Weekly, who operate jointly in the Church & Fields area, with a daily production of 1600 barrels, are reported to have been asked to sign a four-year contract with Humble, same being promptly turned down by the partners. Gulf Production Company also received an invitation to sell its McCamey field crude to Humble for three years as a supplemental contract to one that expired at the close of 1926, and Gulf is at work on a pipe line extension from its McElroy station to take care of its own production.

Contracts Signed

The first three-year crude contract obtained by Humble in the Church and Fields area was signed by Simms Oil Company and Atlantic Oil Producing Company to supplement a contract that expired at the close of 1926. Simms and Atlantic tendered contract last May to Humble, whereby the latter was to take a maximum of 10,000 barrels daily from the joint properties until the close of 1926. This contract saved Simms and Atlantic from being prorated under this amount when Humble issued a proration order last July to Church and Fields operators. According to the terms of the new contract with Humble, one-third of the joint production of Simms and Atlantic is to be run and purchased by Humble for three years, with a limit set at about 7000 barrels daily. This joint property is now making between 18,000 and 20,000 barrels daily. Atlantic has a contract to have its remaining interests in the joint production gathered and transported to the Gulf Coast by the Magnolia Pipe Line Company, while Simms Oil Company has closed a deal to exchange its remaining Church and Fields production to Magnolia for South Oklahoma oil. Magnolia Pipe Line Company makes deliveries to Simms refinery at Dallas via pipe line.

Humble Controls

Humble Oil & Refining Company holds control of the crude market situation in the West Texas district by reason of being the only major purchaser, and handling through its pipe lines and to field storage more than three times as much crude as any other concern in the district. During the month of November, 1927, which is the latest monthly figures available, Humble accepted for purchase and produced an average of 90,380 barrels of oil daily, or slightly more than 40 per cent of the total West Texas production, which averaged 225,300 barrels in November. Humble's production during this period averaged 8650 barrels daily, thus outside purchases of crude amounted to 81,730 barrels daily average. Except for 20,000 barrels daily purchased on contract in the Big Lake field at the average Mid-Continent gravity prices, Humble paid 60 cents per barrel for the above oil at the well.

Control of the West Texas crude situation by Humble dates back to December 15, 1924, when a contract was made with the Reagan County Purchasing Company, Inc., to take a maximum of 20,000 barrels of Big Lake field crude daily at the average Mid-Continent gravity scale prices until April 1, 1940. The Reagan County Purchasing Company, Inc., which is controlled by Marland, had made a contract on November 24, 1924, with the two producing concerns in control of the Big Lake production for the life of the properties, deliveries to be limited to a maximum of 20,000 barrels daily. Humble Pipe Line Company extended its Central West Texas trunk line system to the Big Lake field immediately after procuring this

(Continued on page 40)

Estimates Give World Total of 1,244,915,000 Barrels

Increase in United States largely responsible for record total revealed by preliminary estimate; less drilling in U. S. fields

By A. R. McTEE
Staff Representative

ACCORDING to preliminary estimates on petroleum production for 1927, the world output totaled 1,244,915,000 barrels, a gain over 1926 amounting to 148,981,000 barrels. The increase was shared by a number of countries, but fields on the American continent were responsible for approximately 85 per cent of the gross yield. The United States gaining over its output for 1926 showed slightly more than 70 per cent of the total.

The daily average yield for the world was 3,413,400 barrels, of which 2,480,500 barrels was from the United States.

The dominant position held by the United States was strengthened by discovery of several phenomenal fields during the year, and the output of the old districts bolstered by flush oil from the new fields reached the unprecedented total of 905,415,080 barrels, a gain of 140,619,205 barrels over 1926.

This gain of 140,619,205 barrels in the United States is without a doubt the most significant event of the year in petroleum development, because of its far-reaching effects. Prior to 1927, for four years, there had been no appreciable gain in output in this country. Stocks had gradually accumulated until a burdensome surplus was already on hand, and when the heavy over-production of 1927 came, it was impossible for the market to absorb sufficient crude to prevent a crumbling of price structure.

The so-called critical fields in the Texas Panhandle, West Texas, and the Seminole district, alone produced 209,009,600 barrels during the year, or slightly more than one-fifth of the total United States output.

At Seminole, artificial flowing means resulted in a quick peak, but the cost was great, both then and now. The high rate of recovery from air lift methods released enough oil to break the market, and once it was down, West Texas did much to keep it there. Seminole has been referred to, aptly, as the "Follies of 1926," and we might add that West Texas makes a pretty good afterpiece to the "Follies." Undoubtedly much valuable mechanical information on artificial flowing was obtained at Seminole, but engineers studying the scientific application of artificial flowing methods are doubtful whether or not the ultimate recovery of the field has been increased through the methods used.

Preliminary Estimate of World's Petroleum Production for 1927

(In thousands of barrels)*

Country—	1925	1926	1927
United States	763,743	770,874	905,415
Russia	52,448	62,941	70,000
Mexico	115,515	90,421	63,000
Venezuela	19,687	37,381	60,000
Persia	35,038	35,842	36,000
Roumania	16,650	23,292	28,000
Dutch East Indies	21,422	20,817	20,000
Colombia	1,007	6,444	14,000
Peru	9,252	10,782	11,000
India	8,274	8,270	8,000
Argentina	6,336	7,947	8,000
Poland	5,960	5,844	5,900
Trinidad	4,387	5,278	5,400
Sarawak	4,257	4,942	5,000
Japan	1,694	1,557	1,700
Egypt	1,226	1,181	1,150
Germany	541	653	700
France	459	478	500
Canada	332	365	500
Ecuador	160	214	320
Czechoslovakia	158	150	150
Others	195	261	180
	1,068,741	1,095,934	1,244,915

*All 1927 figures except those for the United States estimated by Valentine R. Garfias of Henry L. Doherty & Company.

United States Production by States, 1927

Following is a preliminary compilation of United States Production for 1927, American Petroleum Institute figures, unrevised:

State—	Production 1927	Production 1926
Arkansas	40,777,060	59,056,786
California	231,705,465	224,117,015
Eastern States	40,495,000	38,322,330
Kansas	40,161,910	40,302,370
Louisiana	23,326,205	24,007,875
Mountain States	30,188,540	37,680,885
Oklahoma	271,476,715	176,450,580
Texas	227,284,185	164,858,000
Totals	905,415,080	764,795,875

"Critical" Fields

Separate production for the critical groups of fields was as follows: The Texas Panhandle, 41,017,895 barrels, divided as follows: Hutchinson County. 33,371,555 barrels; Gray County, 3,769,635 barrels; Carson County, 3,225,955 barrels; and Wheeler County, 650,750 barrels; West Texas, 36,220,660 barrels, divided as follows: Crane-Upton Counties, 30,595,640 barrels; Pecos County, 4,831,395 barrels; and Winkler County, 793,625 barrels; the Seminole district, divided as follows: Seminole pool proper, 80,628,105 barrels; Earlsboro, 35,527,345 barrels; Bowlegs, 11,287,250 barrels; Little River, 3,851,400 barrels; and Searight, 2,449,950 barrels.

Due to lack of pipe line facilities, proration was practiced during several months of 1927 in the Seminole area and in West Texas.

Present indications are that all of the fields mentioned, with the exception of Pecos and Winkler Counties, in West Texas, have reached their peak outputs. In Pecos and Winkler Counties, however,

Production in Oklahoma-Texas Flush Areas for 1927

TEXAS PANHANDLE

	Production in Barrels
Hutchinson County	33,371,555
Gray County	3,769,635
Carson County	3,225,955
Wheeler County	650,750
Total	41,044,895

WEST TEXAS

	Production in Barrels
Crane-Upton Counties	30,595,640
Pecos County	4,831,395
Winkler County	793,625
Total	36,220,660

OKLAHOMA

Field—	Production in Barrels
Seminole	80,628,105
Earlsboro	35,527,345
Bowlegs	11,287,250
Little River	3,851,400
Searight	2,449,950
Totals	131,744,050

Recapitulation

Texas Panhandle	41,044,895
West Texas	36,220,660
Seminole District	131,744,050
Total	209,009,605
Percentage of United States total produced by these three districts	21%+

1928 will probably show much more oil recovered than was reported in 1927. Development in both counties is intensive at this time.

State Records

Individual production by States in the United States showed the following gains: Oklahoma, 95,026,135 barrels; Texas, 62,426,185 barrels; California, 7,598,450 barrels; and Eastern States, 2,172,670 barrels. Offsetting these increases were the following losses: Arkansas, 18,279,220 barrels; Mountain States, 7,492,345 barrels; Louisiana, 681,670 barrels, and Kansas, 140,670 barrels.

In the States showing heavy decreases, no new fields were discovered and drilling was largely confined to inside locations in old fields. The practical cessation of activity in the Smackover district, Arkansas, was responsible for the loss of 18,279,220 barrels in that State. The Kevin-Sunburst field, Montana, was less intensively drilled during the past year than in 1926, accounting for the decline in Mountain States. In Louisiana and Kansas, new work failed to offset the normal decline in old fields, by a small margin.

The gain in California came from deep sands in a few old fields and a few extensions to old producing areas, principally Huntington Beach and Seal Beach. Ventura Avenue field also contributed limited flush production. None of the new development on the West Coast, however, yielded as much oil as was predicted, with the result that the California market did not feel the strain exerted elsewhere in the United States, especially in the Mid-Continent.

The estimate made by Valentine R. Garfias, manager of the Foreign Oil Department of Henry L. Doherty and Company, and printed in THE OIL WEEKLY, October 7, and which is used herewith, gives important increases to Venezuela, Colombia, Russia and Roumania.

Venezuela and Colombia will probably show a combined gain close to 30,000,000 barrels, 22,000,000 barrels is from Venezuela and 8,000,000 barrels from Colombia.

Even if these figures are no larger when final compilations are made, the gains from the two South American districts have extraordinary significance, especially in the face of a 27,000,000 barrel decline in Mexico's output.

Imports From South America

Imports from Venezuela increased throughout the greater part of the year, meaning that oil which came formerly from Mexico to the United States, is now coming from South America. The long pipe line from the Infantas field in Colombia, has also opened that area to the world markets. It is understood that the line will be looped, which will release more Colombian crude during 1928.

Venezuelan development is handicapped by lack of pipe lines as well as obstructions to tanker transportation, but the South American companies are building up tremendous reserves of oil which will certainly be released when the propitious time arrives. A few refineries on the island of Trinidad will probably mean a close outlet for Venezuelan crude.

Mr. Garfias points out that Mexico should relinquish to Russia the second ranking position as an oil producer, and adds that it is possible that Venezuela will outstrip Mexico for third position.

Much crude from Venezuela is now being shipped to Mexico for refining purposes.

Rehabilitation and Americanization of the fields in Russia are showing in that country's output. During 1927 the gain in production was about 8,000,000 barrels, and the present year will probably see a much greater gain in the Russian yield. It is logical that development should be intensified this year to replace crude which will be exported, inasmuch as the Standard-Russian affiliation assures export crude from Russia.

Roumania increased its crude output nearly 5,000,000 barrels. Reduction of export taxes and transportation costs during 1927, made it possible for Roumanian refiners to enter foreign markets, but under Roumanian law crude oil cannot be exported.

Generally speaking, other foreign countries showed no material change in their petroleum output for the year. All the

United States Field Statistics for 1927*

State—	Completions 1927	Completions 1926	Producers 1927	Producers 1926	Gas Wells 1927	Gas Wells 1926	Failures 1927	Failures 1926	Initial Production 1927	Initial Production 1926	Annual Production 1927	Annual Production 1926
Arkansas	346	1,102	171	791	31	83	144	228	15,258	74,061	40,777,060	59,056,786
California	903	979	798	869	8	8	97	102	536,560	408,081	231,705,465	224,117,015
Eastern States	7,419	8,498	4,788	5,297	1,403	1,769	1,228	1,432	89,778	82,150	40,495,000	38,322,330
Kansas	1,151	1,851	532	1,053	72	45	547	753	94,016	153,055	40,161,910	40,302,370
Louisiana	869	1,130	365	680	129	128	375	322	117,496	124,229	23,326,205	24,007,875
Mountain States	511	1,505	351	851	37	51	123	603	153,787	315,493	30,188,540	37,680,885
Oklahoma	4,427	5,370	2,417	2,959	474	498	1,536	1,913	1,875,775	1,049,597	271,476,715	176,450,580
Texas	6,511	8,560	3,813	5,287	303	266	2,395	3,007	1,599,827	1,670,145	227,284,185	164,858,000
Totals	22,137	28,995	13,235	17,787	2,457	2,848	6,445	8,360	4,482,497	3,876,811	905,415,080	764,795,875

*December figures estimated.

others have so small a yield as to be of practically no consequence.

Less Drilling

Drilling statistics in the United States showed a substantial reduction in completions for 1927. With December totals estimated, there were 22,137 wells reported, as against 28,995 wells in 1926. These figures give a decrease of 6858 wells, shared by every oil producing State.

The number of producers was below that for 1926 by 4552, the 1927 total being 13,235.

Gas wells decreased 391 as compared with 1926, and the year just ended showed 1915 fewer failures than the previous one.

Initial production for 1927 exceeded that of the preceding year by 605,686 barrels, emphasizing the greater average initial flow of wells completed during the past year.

Of all the States, California was the only one that even approximated as much drilling in 1927 as in 1926. In California the decrease was only 76 wells, there being 979 completions during 1926, and 903 last year. In Texas where the output gained 62,400,000 barrels, completions lost by 2049, and in Oklahoma where production was above that of 1926 by 95,026,000 barrels, there were 943 fewer wells. Both these States, however, gained appreciably in initial yield per producer. Other important decreases in drilling were noticeable in Arkansas, where there were 756 fewer wells, in Kansas, where there was a decrease of 700, and in the Mountain States section, where completions were below those of 1926 by 994.

The decreased drilling statistics indicate that except for the few fields where work was concentrated, activity lagged through the year. A drilling curve for the various fields would show that work was decidedly "spotted," and that it was intensive only in the districts which caused the excessive production. A weakened market condition was largely responsible for this. Excepting contract obligations, operators found it much cheaper to rework old wells than to drill new ones.

In addition to the distinction of breaking all previous production records, 1927 can perhaps be said to be outstanding in another direction: namely, that of having made notable progress in mechanical methods of flowing wells and attempts at restoring production through repressuring. In fact it is true that operators are no longer thinking of mechanical flowing methods alone. Repressuring is now being attempted on many properties and wells with little or no output for several years are being made to pay off. These measures involve return of excess gas to key wells, scientific control of the gas-oil ratio through flowing against back-pressure, stage lifts using minimum gas pressures by allowing the well to build up heads and flow itself, and air aid gas lift by injecting air or gas into the well under pressure as at Seminole and in West Texas.

Interesting experiments at joint repressuring schemes are now under way in different parts of the country, and 1928 can be counted on to contribute definitely to the increasing information on how to produce oil more efficiently.

Pipe Line Notes for the Week

Atlantic Building Line in West Texas

Dallas, Texas.—The Atlantic Pipe Line Company has been organized by the Atlantic Refining Company to build and operate a crude oil pipe line system in the West Texas district. This line is to serve the producing properties of the Atlantic Oil Producing Company in the Hendricks field, Winkler County, and details regarding the line were published some weeks ago.

R. W. Howe is the state agent for the Atlantic Pipe Line Company, with headquarters on the eighth floor Magnolia building, Dallas. The Janes Contracting Company, 805 Trunk Street, Dallas, was awarded the contract to weld 71 miles of 10-inch for Atlantic from the Hendricks field to a tank farm at Midland, Texas, and construction has been underway for several weeks. Adverse weather and shifting sand dunes encountered along the route of the line has retarded progress, and some difficulty has also been met with in obtaining the desirable number of experienced welders, owing to the great volume of pipe line construction underway in West Texas.

Landreth Building Line From Hendricks Field

Fort Worth, Texas.—Landreth Production Corporation has started construction on a six-inch pipe line from its producing properties in the Hendricks field, Winkler County, to a tank car rack site at Monahans to fulfill a million barrel crude contract made recently with the New Orleans Refining Company. The National Supply Company has a turn-key contract for the building of Landreth's line, which will require about 18 miles of pipe, besides a complete field gathering system, and completion date is set for February 1.

Landreth is developing the Hendrick field properties on a 50-50 basis with Roxana Petroleum Corporation, and each must take care of their respective portion of the production. Roxana is running this partnership oil and its own production from the field to tankage and to a rack at Monahans, with a second line from the field extending to McCamey tank farm and rack. The joint properties of Landreth and Roxana averaged 9110 barrels daily during the past week.

A flat price of 60 cents per barrel is reported to have been paid by the New Orleans Refining Company for the one million barrels of oil f. o. b. buyer's cars on the Monahans rack, which will have a capacity of 40 cars, and deliveries are to be made via railroad to the Norco plant, located near New Orleans. The New Orleans Refining Company has contracted for a total of 3,500,000 barrels of Hendricks field crude, having agreed last November to take 2,500,000 barrels of oil from the Independent Oil & Gas Company, which is now completing an eight-inch line from the field to rack at Pyote, Texas, to start shipments shortly.

Landreth's line will start from a tank farm site in the southwest quarter of section 29, block B-5, Winkler County, and terminate at rack in the southeast quarter of section 80, block "A," G. M. M. B. & A. Survey, Ward County, located on Texas & Pacific Railway and just west of Monahans. Centrifugal pumps and electric motors have been purchased for the station equipment.

Headquarters for Landreth Production Corporation are located on the fourteenth floor Petroleum Building, Fort Worth, and E. A. Landreth, president, is in active charge of all operations.

Roxana Finishing Second Hendricks Field Line

San Angelo, Texas.—Roxana Petroleum Corporation's second pipe line outlet from the Hendricks field is scheduled for completion late this week, thus affording more than 20,000 barrels daily movement of crude to distant tank car racks. Roxana's first line from this field was built to a 60-car capacity rack at Monahans, and placed in operation about December 10. The second line was extended to McCamey district, a distance of about 80 miles, and will permit loading of crude on tank cars on the Orient Railroad, or accumulation of same in a big tank farm now underway near McCamey. Roxana's McCamey rack is being increased from 22 to a maximum capacity of 52 cars capacity.

Upon the completion of Roxana's Hendricks-McCamey line, the construction crews will start work promptly on building a line from McCamey to the Yates field, but the latter unit will not be operated until the Shell Pipe Line Company's 10-inch line from Healdton, Oklahoma, to McCamey is completed next spring, or early summer. These three local lines being built by Roxana in connecting up the Hendricks and Yates fields with McCamey and Monahans are made up of six-inch pipe, with a daily capacity of 10,000 to 12,000 barrels each, and will handle crude for rail transportation and McCamey storage until the Shell trunk line is put in operation .

Government Has Ready Means of Limiting Production

Cullinan points out that under terms of existing Commerce Act, government has power to limit output by restricting movement

THAT the United States government, through the Interstate Commerce Act, already has power to regulate production of oil in certain flush fields, is the opinion expressed by J. S. Cullinan in an open letter to Chairman Hubert Work of the Federal Oil Conservation Board. Mr. Cullinan, who is chairman of the board of the American Republics Corporation, speaks from advice of a legal firm in New York which he does not name in his communication.

The opinion points out that it is within the province of Congress to provide in time of peace for war which it is empowered to conduct by the Constitution, but that production of commodities is subject only to the police powers of the States.

However, the Interstate Commerce Commission has broad powers over movement of commodities in interstate commerce, it is indicated, including the limiting of lines to handle commerce, even though the line be entirely within a State; the fact that it may originate freight which will move interstate over another line, has been accepted as putting the construction and operation of such lines under the jurisdiction of the federal board.

Mr. Cullinan's interests recently have had controversy with the Interstate Commerce Commission and at least one railroad who oppose the construction of a short line along the Houston Ship Channel which would serve terminals of the Cullinan Oil group and other industries along its route. This line is only a few miles long and wholly within Texas.

Under the plan proposed, construction and operation of pipe lines which would serve wildcat fields and thus place surplus oil into general commerce, would be restricted under the commission's powers, in the interest of conservation and under a broad conception of the power given to the government to provide munitions for war, as was proposed by Henry L. Doherty in his original proposal that the government take steps to control production of petroleum.

Text of Letter

Mr. Cullinan's letter to Secretary Work follows:

"ON my return to New York following my conference with you in Washington on November 1, I submitted to a prominent firm of New York attorneys two questions for opinion to be based on the constitutional powers of the Congress—

"*First*: The authority under the national defense clause to (in time of peace) condemn and appropriate a natural resource essential to the prosecution of war.

"*Second*: The right to delegate authority to the Interstate Commerce Commission or other agency to regulate and control the movement of a commodity.

"You will note from the following quotations that both questions seem to be answered in the affirmative:

The "War Powers"

" 'The so-called war power is really divided into three aspects. First, the power to wage war; second, to maintain an army and third, a navy.

" 'The war power is perhaps the broadest and most sweeping power given to the federal Congress. It is practically without any limitation. (Miller v. U. S., 11 Wall 305). It is not limited to the period of actual hostilities but includes wise preparation for the event, e.g., the building and maintenance of the Naval Academy, (U. S. v. Bevans, 3 Wheaton 336; Bynes v. Hoover, 20 How. 65; Smith v. Whitney, 116 U. S. 182). Thus the authority to build and equip vessels of war is doubtless implied in the power to declare war, but the same power is more directly conferred by the power to provide and maintain a navy. (U. S. v. Rhodes, 1 A.B.U.S.28). Legislative authority may be derived from more than one grant in the constitution. (U. S. v. Burlington Ferry, 21 Fed. 340).

" 'To say that a government is helpless in time of peace to make wise preparation for potential war, is to declare that government wholly impotent, and at the mercy of a foreign invader. Even if the war power itself is held to be limited in the event of hostility, the army and navy powers are certainly broad enough to provide against a contingency that would leave the United States defenseless.

" 'Modern warfare is vitally dependent upon oil and its products. The naval vessels are oil propelled. Airplanes, motor transport of all kinds for men and materials, are dependent upon gasoline. Other forms of transportation are archaic. The horse has almost disappeared in time of war. It may safely be said that in modern times war may not be waged without gasoline any more than it may be waged without gun powder. In wartime a country may not depend upon supplies from other countries. It must rely upon its own natural resources to supply its needs. The government could not stand idly by and see reckless destruction of this essential commodity to such an extent as to endanger its supply in time of war. It is only a question of degree. If the national safety is possibly endangered by waste and destruction of these natural resources, it seems most extraordinary if the federal government could not, by proper regulations and prevention of waste, take measures to protect itself against the grave danger of lack of adequate oil supplies in the event of war.

" 'This is especially true when it is considered that oil is a natural resource in which the nation has a peculiar interest, even though no specific power over it be given by any specific clause of the constitution.

The "Commerce" Clause

" 'Congress is given the widest possible domination over interstate commerce and undoubtedly so far as the subject touches interstate commerce the power to regulate exists. It is well to understand, however, what is meant by interstate commerce. It is essentially transportation as distinguished from production or manufacture. It includes the means employed for transportation and the instrumentalities of commerce without regard to the agencies by which they are carried on. Unquestionably transportation of oil and pipe line

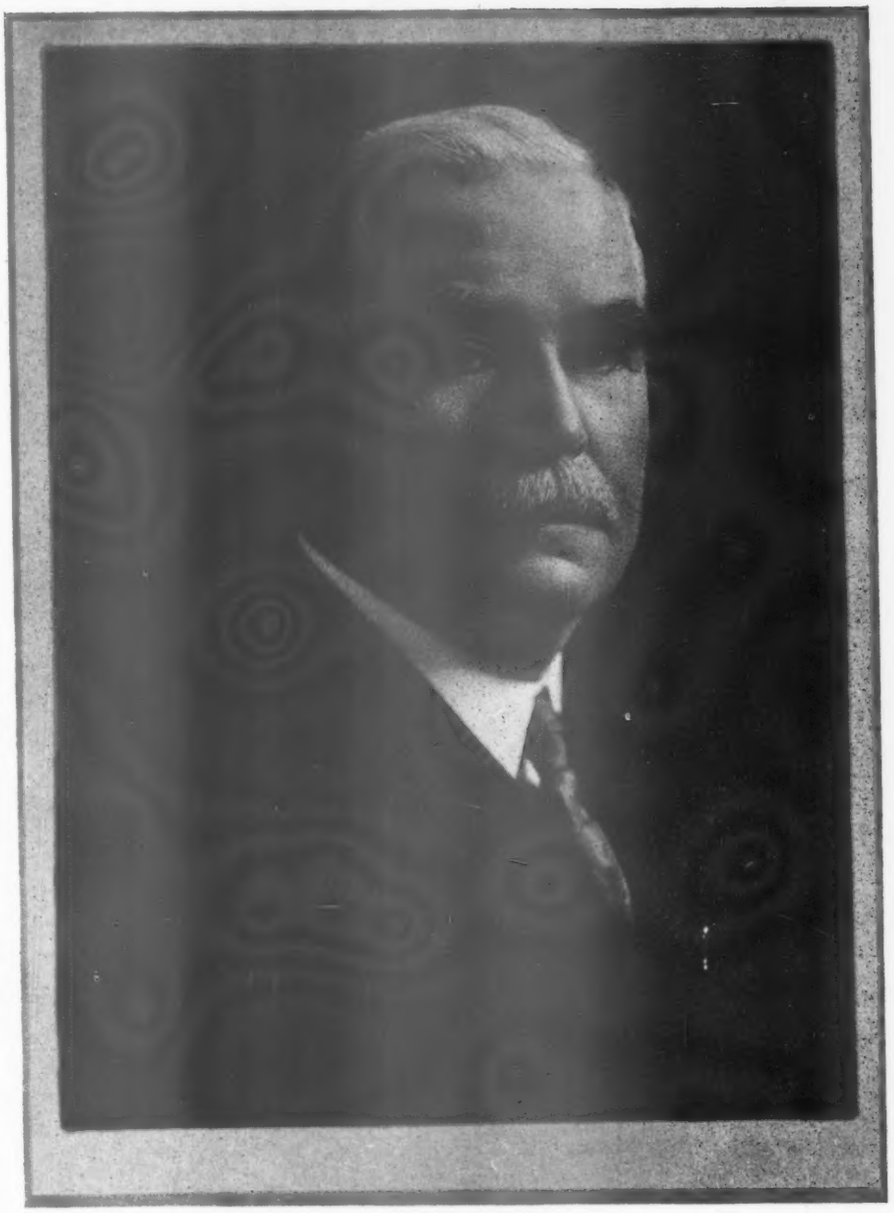
from one State to another is interstate commerce.

"'The Interstate Commerce Commission act, which is essentially a transportation act, gives that commission specific powers over the transportation of oil in pipes from State to State, and such transportation may well be regulated. (U. S. v. Ohio Oil Co., 234 U. S. 548). But as stated above the power to regulate interstate commerce does not justify interference with production or manufacture, which is purely a matter of internal commerce and regulated by the States under the police power. (Missouri RR v. Haber, 169 U. S. 628). The States may not interfere with interstate commerce, (McDermott v. Wise, 228 U. S. 115). There must be a sharp line of demarcation between what is domestic commerce and what is interstate commerce. With the former, the federal government has no right to interfere. (U. S. v. Boyer, 85 Fed. 35; Addyson Co. v. U. S., 175 U. S. 247; Coe v. Errol, 116 U. S. 527; U. S. v. Dewitt, 9 Wall, 44, where Congress unsuccessfully attempted to regulate the quality of the oil).

"'On the other hand, once it appears that the subject is interstate commerce, the powers of Congress are plenary, (Weber v. Field, 230 U. S. 525) and may extend to any subject matter, e.g. lottery tickets, 188 U. S. 354; original package cases, Guggenheimer v. Sellers, 81 Fed. 998; food, cigarettes, Austin v. Tennessee, 179 U. S. 350; liquor, 226 U. S. 192; unlawful combinations, Missouri Securities Co. v. U. S., 195 U. S. 332; Pure Food and Drug Act, Hippolite Egg Co. v. U. S., 200 U. S. 45; shipment of game killed in violation of local laws, Ruppert v. U. S., 181 Fed. 87.

"'Where Congress has the power over any specific subject, it has the right of eminent domain, (Monongahela Navigation Co. v. U. S., 148 U. S. 312; Dayton Goose Creek R. R. Co. v. U. S., 263 U. S. 456) subject of course to the limitations of the Fifth Amendment as to making due compensation. This power of eminent domain may be delegated to a federal agency. (Federal Water Power Act; Alabama Power Co. v. Gulf Power Co., 283 Fed. 606). (Note that this Federal Water Power Act, however, really finds its inception in the regulation of navigable waters).

"'Finding that Congress has undoubted power to regulate interstate commerce in oil in pipe lines, which power it has delegated to the Interstate Commerce Commission, it would seem that they might well indirectly control the production of oil by exercising power over the distribution thereof in interstate commerce. If the federal government has the right to withhold its consent to the construction of a railroad where the construction of such road would be a burden on general interstate commerce and detrimental generally to the interstate railroad system, it seems plain that they would have a like power to forbid the construction of an interstate pipe line on the same general principles, and thus they would at least prevent the building of pipe lines into wildcat territory, which would undoubtedly have a beneficial effect upon overproduction.



J. S. CULLINAN

"'In other words, they could not prevent the *overproduction* of oil, for that is a matter of *domestic* commerce; but they could make it unprofitable, if not impossible, to produce such oil by wise regulation of the right of interstate transportation thereof, including possible embargo (U. S. v. Marigold, supra) and it would seem that they would have considerable power along this line under the Interstate Commerce Commission act as it now exists, and might be given specific powers if thought to be necessary.

"'It is our judgment that a combination of the interstate commerce power with the power to wage war and provide and maintain armies and navies, lends ample authority to the United States to intervene in the waste of oil when the point of waste approaches a national emergency and endangers the possible defense of the country.'

"If the foregoing is sound, as (a layman) I believe it to be, conforming in principle as it does with a previous legal opinion secured from another source some years ago, regulation of movement of petroleum by prorating capacity through pipe lines and by rail carriers, should afford a means of curbing overproduction and thereby confine the distribution of crude to the essential demands of the domestic and foreign consuming markets.

"Excessive production is credited to three States, and a few pools within such States. It is further known that restriction would apply to less than 1 per cent of the nation's producing wells, without involving check or hindrance to the older pools or smaller wells producing say 10 barrels or less, many if not most of such wells now being operated at a loss, result-

(Continued on page 42)

A Testing Ground for Production Methods

By WALLACE DAVIS
Staff Representative

MARLAND OIL COMPANY'S experimental farm, three miles southwest of Coffeyville, Kansas, which is being used for special research work in production methods, offers a wide variety of interesting work, especially pertaining to the use of air pressure in old shallow wells. A force of men there, headed by G. W. Noble, petroleum engineer, are spending their entire time experimenting on a group of unusually shallow wells from every conceivable angle for the ultimate purpose of developing better methods that might be applied on wells in more profitable areas.

As yet the campaign of research is still in progress, and definite figures on production increases, declines in water percentage, cheaper lifting costs, reaction from certain pieces of equipment, and other interesting items are not available, but some of the methods being employed could no doubt be practiced profitably by operators in many of the shallow fields over the country.

Approximately 40 wells on about as many acres are being used for this experimental work, and it is from the performance of these that the detailed records are being compiled for future information.

The Marland Company is using in this work a large amount of "home-made" makeshifts. In this practice the company is learning the possibility of certain original methods and at the same time is cutting costs of its extended period of research.

The common air-drive system is being used in the first place, flooding the oil sand with pressure through key wells. None of the wells are pumped, although on an average they are around 15 years old and practically all gas pressure is gone. The air-lift system, in part practically the same as that now generally used in new flush fields, is in use.

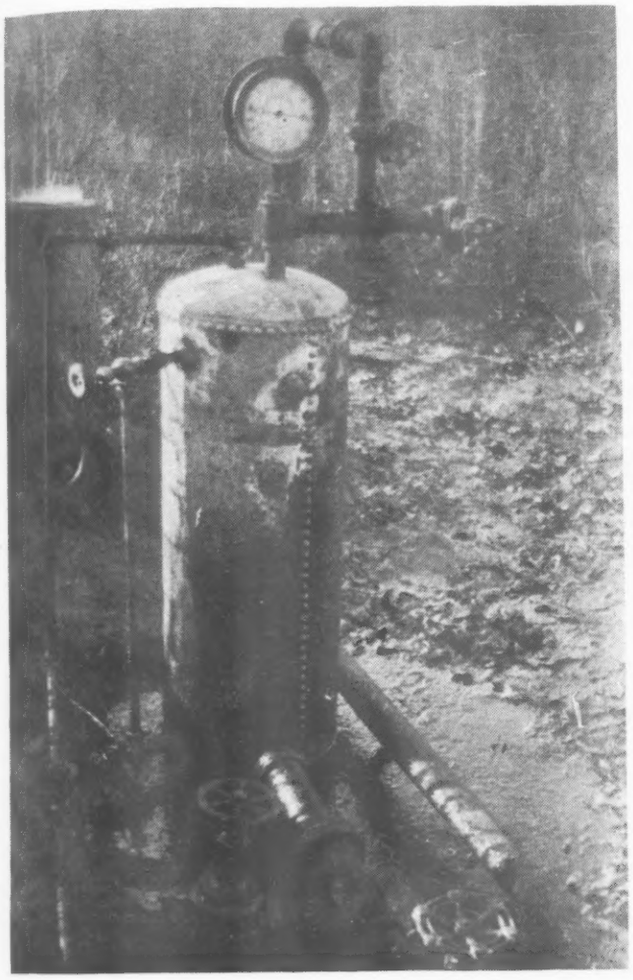
Shallow Wells

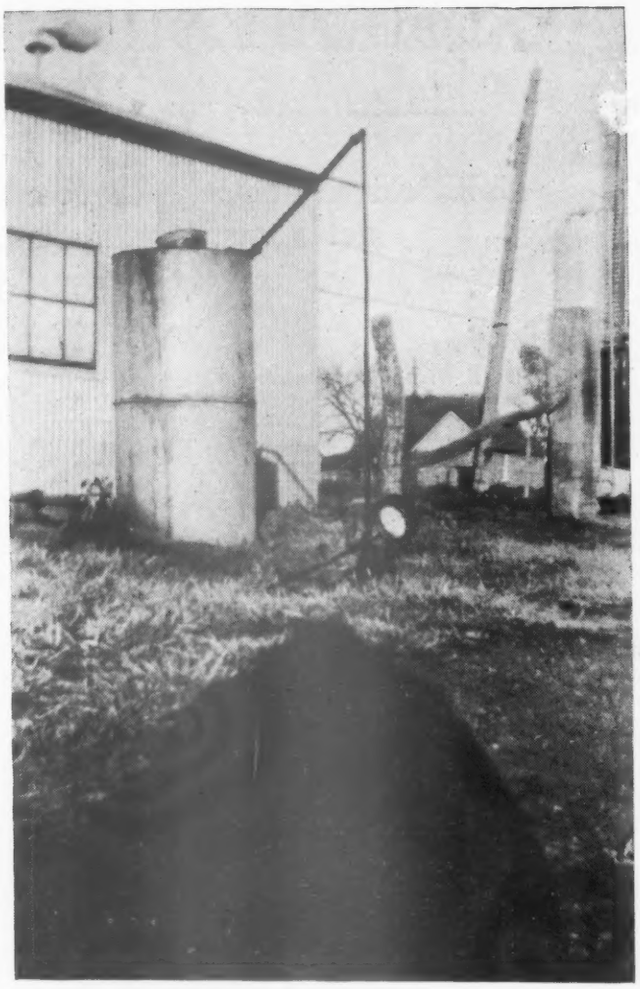
The modern methods of production now in use on the experimental farm are even more interesting, owing to the contrast against methods once employed there. This, incidentally, is the shallowest production in the United States deserving mention of note; average depth on the farm is approximately 90 feet. Following its discovery, and until about two years ago, the wells were pumped by hand by use

Here is how Marland's Experimental Wells were once pumped. Production varied according to how long the pumper's back held out.

A typical air well on the Coffeyville farm. A 3/8-inch air line feeds the well and the same size flow line handles the production.

This booster station on the Marland experimental farm is made from an old hot water heater. Notice the arrangement of connections.





One of Marland's shallow wells, showing hook-up with small flow tank beside the compressor station.

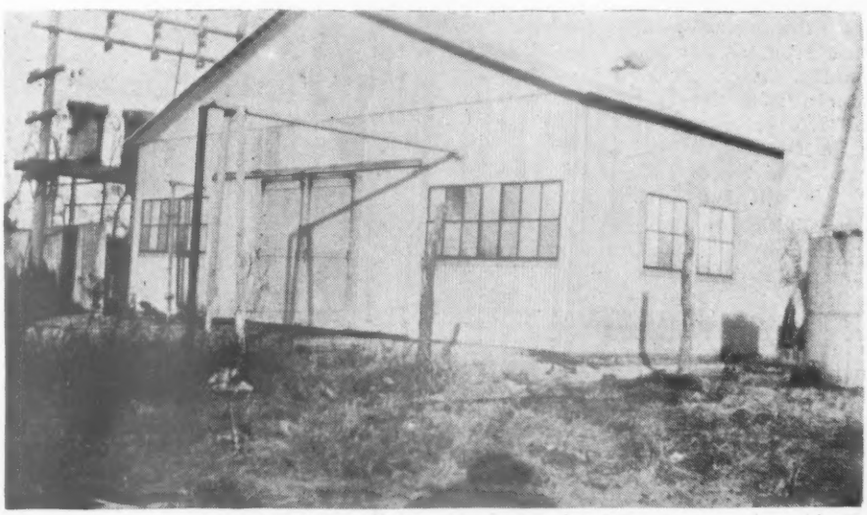
of the common old water well pump. Production was made according to the length of time the pumper could hold out and the speed he could show; that is, provided the seepage supply in the hole was not exhausted before he petered out. Then, after the oil was pumped from the hole by hand, it was likewise transferred to a tower tank to be run by gravity to the point of shipment on the railroad several hundred yards away.

Marland's compressor used on the farm today is a Hall steam pump formerly used in an old mine near Joplin, Missouri. It is propelled by a 75 h. p. General Electric motor, and is good for developing 350 pounds pressure. It is interesting to know that neither in summer nor winter does the air get hot enough through compression to require a cooling tower, and the tower installed on the farm has never been in regular use.

The fact that the main lead lines over the farm are only two-inch goes to show the smallness of the whole system. It could almost be cited as a miniature air-lift model. The key wells are flooded from the two-inch to drive the fluid into the sands around the bottom of the hole, while a three-eighths-inch line branches off from the two-inch main feeder to serve as the lift in individual wells. This three-eighths-inch line is jetted into the casing head through a swedge serving as the well cap, and the pressure is simply liberated into the casing. The flow line is also three-eighths of an inch and is hung down in the hole to the point desired for the drainage of the fluid body when the well is flowed. This flow line is regulated by a valve above the swedge over the casing head.

Flowing the wells on Marland's ex-

(Continued on page 46)



Marland's compressor plant at Coffeyville, Kansas, where a Hall Steam pump propelled by a 75-h.p. G. E. Motor furnished air to flow 15-year-old, 90-foot wells. The pump was taken from a Missouri mine.

South Louisiana Very Active Wildcat Area

Gulf Coast region has quiet week as judged by completions in older fields, but developments in wildcats hold interest

By JACK LOGAN
Staff Representative

HOUSTON.—Although the recent holiday season slowed up activity in the Gulf Coast sections to a marked extent, resulting in an unusually small number of completions, there were some developments of interest in virgin territories, particularly on the new seismograph-discovered domes of South Louisiana.

On the Kelso Bayou dome, Cameron Parish, Calcasieu Oil Company has started drilling Watkins 1, second offset to the Caldwell 2, discovery well of the area, and early this week had set 66 feet of surface casing. The Olevia 1, first offset to the discovery well, was drilling at the same time in gumbo at 3867 feet, very close to the level at which the Caldwell 2 was completed. The discovery well is now flowing through a five-eighths-inch choke, and is making about 1500 barrels of fluid, including approximately 50 per cent water.

Sweet Lake

In the Sweet Lake district, Cameron Parish, Louisiana, Pure Oil Company's Sweet Lake 3, which at 5897 feet is the deepest producing well in the Gulf Coast, is still flowing about 465 barrels of pipe line oil a day. It has now been flowing for about three weeks, after being brought back on production. It had previously sanded up twice after being completed originally more than a year ago. In the same district, Pure's Sweet Lake 4 and Sweet Lake 5 are drilling again, after having made little progress during the past several months. Each of them is now more than a mile deep. Early this week the No. 4 was drilling at 5470 feet, while the No. 5 was down to 5426 feet. The Sweet Lake 2 of this district is still shut down.

In addition to the activity at Kelso Bayou and Sweet Lake, operations in Cameron Parish include wildcats being drilled by the Yount-Lee Oil Company and by the Louisiana Land & Exploration Company. The Yount-Lee test, known as the School Lands 7, has set surface casing at 943 feet. The other test, Louisiana Land & Exploration Company's Calcasieu Lake A-1, located on a newly discovered dome, was drilling a few days ago at 1371 feet.

Besides the test in Calcasieu Lake, the Louisiana Land & Exploration Company has another drilling test and a location in Iberia Parish, the former being the Vermilion Bay A-1, in which nine-and-one-quarter-inch casing has been set at 558 feet.

Waves Slow Up Drilling

The Vermilion Bay A-1 and the Calcasieu Lake A-1 are each interesting tests, because of the adverse conditions under which they are being drilled. Both are three or four miles from land, in water which becomes very rough at times, resulting in slow progress in the work.

The men who are at work on the test in Calcasieu Lake live in a houseboat anchored in a sheltered spot in the edge of the lake; while those employed in drilling at the Vermilion Bay site live in a camp on the shore at Cypremont Point, which is more than three miles from the derrick. The water surrounding the derrick of the Vermilion Bay A-1 is about 12 feet deep, and the location is such that the wind has an open sweep over the water for about 15 miles from several angles before reaching the scene of the drilling, with the result that the waves are sometimes eight or 10 feet high.

Avery Island Wildcat

The new location of the Louisiana Land & Exploration Company in Iberia Parish is the Avery 1, located on Avery Island, about 15 miles southwest of New Iberia. It is in Section 25-13s-5e, being 5458 feet east and 7699 feet south of the northwest corner of Section 39, same township and range.

Other operations in Iberia Parish include the Jefferson Oil & Development Company's Jeff Island Salt Company 2, which was drilling last week at 488 feet in sand and gravel; and two tests of the Gulf Refining Company of Louisiana in the Loreauville dome, seismograph discovery. On this dome, Gulf's Broussard 1 was drilling at 4718 feet, while the State Z-3 was down to 1182 feet. This dome was discovered over a year ago, and three tests on it were completed as producers, but later quit producing.

Initial Tests on Three Domes

Other seismograph-discovered domes of South Louisiana on which there is activity now are the White Castle, Bayou de Galise, Bayou Blue and Thibodaux domes, the first three being in Iberville Parish, while the last named is in La Fourche Parish. Neither of the first three domes has been drilled on before the present tests were started. On the White Castle Dome, Roxana Petroleum Corporation's Wilbert 1 was in sand and shale at 1574 feet, where a core was taken. The Union Sulphur Company is drilling the tests on the other two Iberville Parish domes: the Wilbert 1 at Bayou de Glaise and the Schwing 1 on the Bayou Blue dome. Both have spudded. On the Stark et al 2 at Thibodaux, the Gulf Refining Company has started drilling. The Stark et al 1, which was abandoned, was the first test drilled on the dome.

On the Sorrento Dome, Ascension Parish, another seismograph dome, Gulf Refining Company has begun drilling its United Lands Company 4. Four tests have been completed as failures on this dome since its discovery early in 1927.

Wildcat operations in South Louisiana which are not on geophysically discovered domes include Union Sulphur Company's Fee 722 at Sulphur Dome, Calcasieu Parish, which is rigged up; Newton Drilling Company's Dupre 1, Calcasieu Parish, drilling below 2720 feet; Estropal Oil Company's Le Doux 2, Jeff Davis Parish, which is shut down at 2980 feet; John Carrodine et al's Walsh 1 in the Welsh district, Jeff Davis Parish, shut down at 1355 feet; Rycade Oil Corporation's Atchafalaya 1 and Atchafalaya 2 in St. Martin's Parish, the former fishing for stuck drill pipe at 3916 feet, while the No. 2 has only recently begun drilling; and Southern Gas Company's South Down 3 and 4, the latter being a location, while the No. 3 tested a sand at 2400 feet.

South Louisiana Completions

In the proven fields of South Louisiana there were five completions, including two oil producers and three failures. The larger of the two producers was Vacuum-Gulf's G. W. Farquahar et al 3 in the Lockport field. Its initial production was 1200 barrels, 40 per cent salt water; the depth was 4400 feet. The other producer was in the Evangeline field, Salt Dome Oil Company's J. E. Cruse et al 1, which pumped 50 barrels initial from 1700 feet.

(Continued on page 42)

Labor-Saving Devices Make Small Leases Profitable

Fullerton Oil Company has made many novel installations to minimize friction and stabilize connections on Torrance leases

By BRAD MILLS
Staff Representative

THROUGH the adoption of many unique and labor-saving ideas, the Fullerton Oil Company is successfully operating a number of small leases in the Torrance field, where the profitable operation of a lease often requires the utmost economy—with a few tricks thrown in for good measure. With many of the wells producing almost as much water as oil, and the situation gradually growing worse, the necessity for economy is readily apparent.

A few years ago, when the Fullerton Oil Company's wells were completed, the gas pressure was sufficient to flow practically all wells, and the water problem had not assumed such a menacing aspect. It was not then necessary to use stringent economical measures to produce most wells at a fair profit. The transition has been gradual, but nevertheless steady. Sand conditions have proved tricky and the encroachment of water has driven many small operators to desperation.

Realizing that the well requiring individual attention in the Torrance field is generally the most expensive to operate, the Fullerton Oil Company installed a central power plant about a year ago. From this plant nine wells are pumped. They are located from 100 to 500 feet from the central unit and near enough in a circle to eliminate the excessive use of counterbalances. All equipment is electrically operated. The lease on which the nine wells are located is comparatively level, adding much to the effectiveness of the central plant.

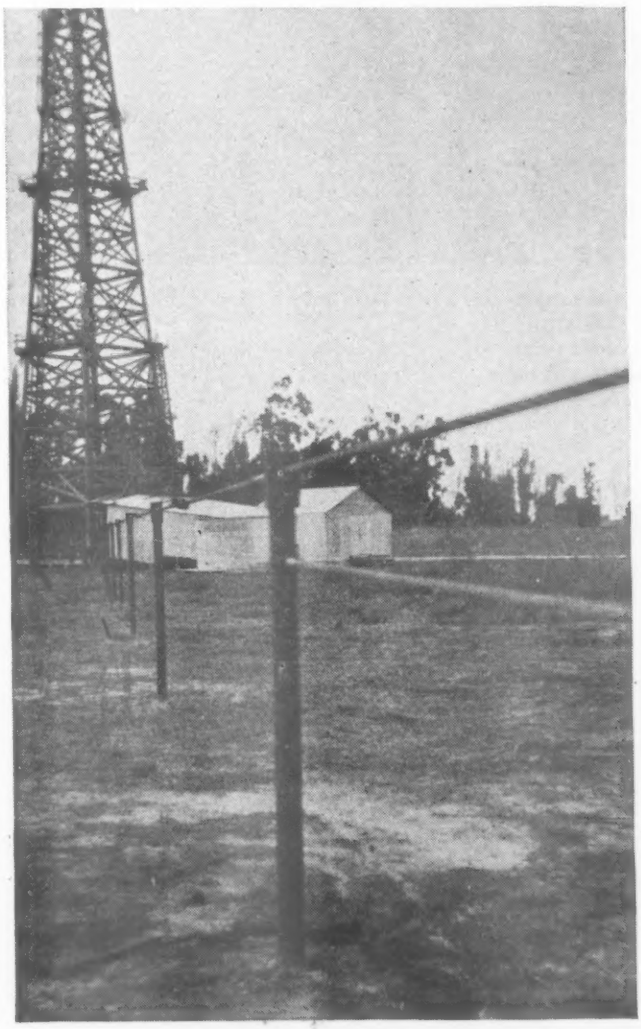
A National, 18-foot double eccentric, under-pull bandwheel was installed as the first unit of the central power plant. The oiling system to the pins holding each line of pull rods is unusually efficient and was installed by the company. It consists of very small lengths of copper tubing, which are placed so that they will pick up very small quantities of oil from a series of street ells connected to the main oil supply. As the eccentric and the copper tubing come almost in contact, the small hack-saw slots in the tubing catch enough of the oil to lubricate the pins. The radius of the swing made by the jack-line is very small, but they often "howled" before the oiling system was installed.

The power for pumping the wells is furnished by a 60-horsepower General Electric motor. A type 20-50 Ideal reduction gear has been installed in connection with the electric motor. It is built to operate on a spilt track and is easily adjusted.

As an example of the care given the construction of the central power unit, several ingenious devices which were designed and built by the company are conspicuous. To prevent the main belt from becoming loose and causing damage, an electric switch has been built onto the belt tightener. As the belt becomes loose and threatens to run off the tightener, it comes in contact with and throws the special switch, which is connected to the main control switch. The power is immediately shut off and the plant is shut down. The arrangement partially eliminates the necessity of keeping a man constantly in the plant, as well as the danger of ruining the belt.

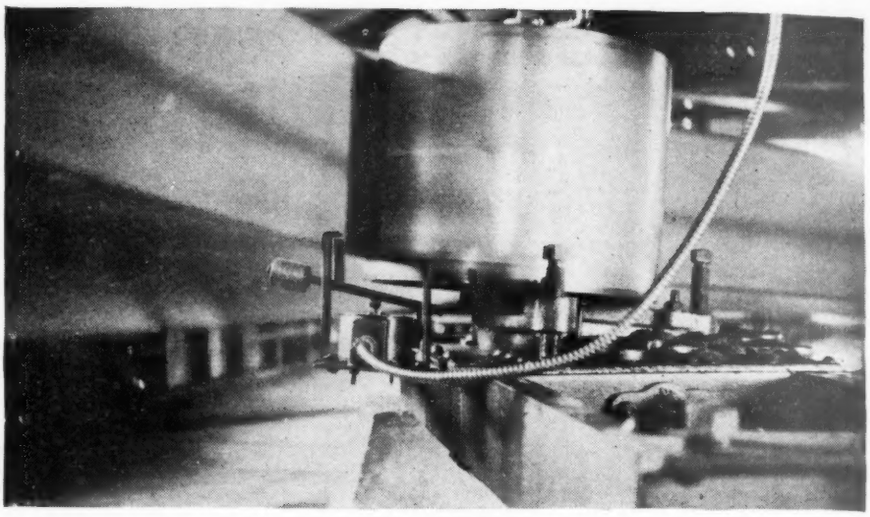
Another clever arrangement consists of a pulley built onto the reduction gear to prevent the belt from running off the reduction gear pulley when the power is shut off. Sometimes there is a back lash and the belt is inclined to run to the inside of the reduction gear pulley. A small pulley has been installed within a few inches of the belt and all danger eliminated. Strips of flat iron support the pulley, since the strain on it can never be great.

Many novel installations have been made all over the lease. By eliminating excessive friction, stabilizing connections, and locating equipment at strategic points waste has been greatly reduced. The jack-line posts are not merely driven into the ground; they are set in cement. Even with that arrangement, however, it was found that they became wobbly in rainy weather. The posts were wired together with one-fourth-inch twisted cable, clinched at each end with a turnbuckle, and the trouble ended entirely. The cable was run parallel to the jack-line and only a short way below it, so that the maximum leverage could be obtained. The

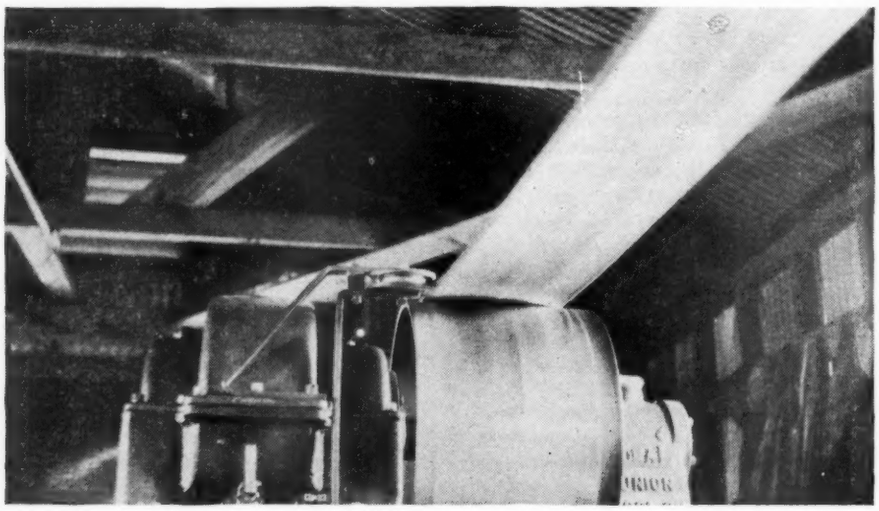


Method used to steady jack posts. Quarter-inch cable is run parallel with the jack line.

arrangement gives the wells a longer stroke and takes considerable wear off equipment. In another instance, a band wheel was in line with the jack-line leading from the central power plant. As the band wheel was used in pulling rods from the well, it was necessary to use two eveners and a double set of pull rods to pass on either side of the wheel. The installation works satisfactorily and the rod line may be easily dismantled and the band wheel placed in use when necessary. The angle swing used to change the general direction of a jack-line is of the company's own design and is made by welding four- or six-inch pipe into a frame of the desired angle. They are lubricated with grease cups and have specially fitted bronze bearings which may be replaced when worn out.



Automatic electric switch on belt tightener to shut off power when the belt becomes too loose.



Pulley built on to reduction gear to prevent belt from jumping off block.

The tanks on the lease are placed several feet above the ground and just high enough that the oil will gravitate to the treating plant. The arrangement brings about a worth-while saving, and the small extra cost of erection has been offset many times by the increased efficiency.

In addition to the main lease, the company operates three other small tracts in other parts of the field. The same economical methods have been applied, but in a more modest way. There are two wells on each of two leases, and in both instances two wells are pumped with one engine. One well is pumped in the regular manner, while another is hooked onto the bandwheel shaft. As one well offsets another, it requires much less power to pump two wells than one. One lease has five producing wells and the double arrangement prevails wherever possible.

The company maintains a small warehouse on the central lease and the stocks are arranged in a systematic way. Many tools that were used in developing the leases remain on platforms. There is no loose equipment lying around the leases.

The Fullerton Oil Company probably does not produce but very little more oil than many of its nearest neighbors; but it apparently has learned the secert of producing with the least possible waste—a factor that often means the difference between success and failure.

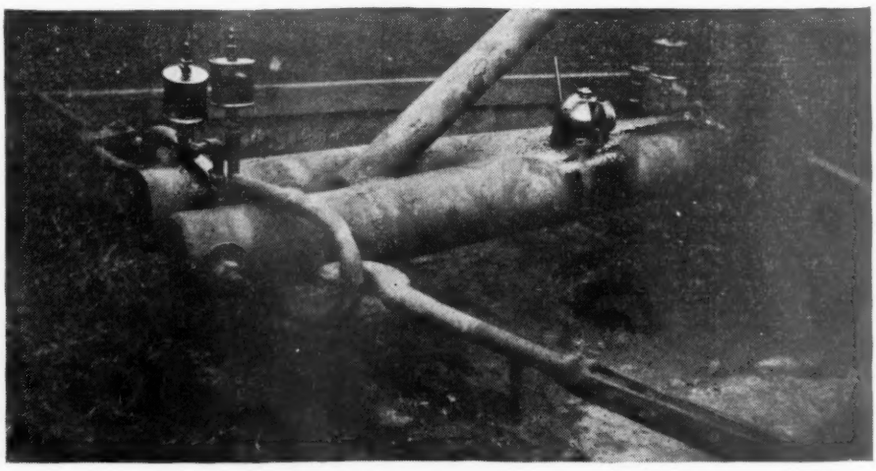
Moody Corporation Buys Pierce Junction Leases

Houston.—The Moody Corporation recently acquired the leases of the Associated Oil Company and of Anderson & Plummer at Pierce Junction, together with production on the properties, paying $325,000 for the two properties.

The purchase from the Associated Oil Company consisted of the lease on the two and one-half acre Boyle tract, on the extreme northwest corner of the field, as well as the producing well, the Boyle 1, which is located on it. The purchase price in this transaction was $175,000.

From Anderson & Plummer the Moody Corporation bought leases aggregating about 50 acres, on which there is one producer. These leases were the Whitehead, the Trapper, the Hume, and the Calvert, all being on the northeast side of the dome. The producing well is on the Hume lease, the Hume 2, which is yielding about 1600 barrels a day.

On these leases on the northeast, the Moody interests have started three tests. The Whitehead 2 was rigging up late last week; the Calvert 1 was drilling at about 500 feet; and the Hume 3 was drilling around 1500 feet.



Double swing—one of the Fulletron Oil Company's own design.

Reduction of Breathing Losses From Vapor-Tight Lease Tanks

Report of investigation made by United States Bureau of Mines in co-operation with the State of Oklahoma

By LUDWIG SCHMIDT
Associate Petroleum Engineer U. S. Bureau of Mines

THE use of vapor-tight tanks has proved so effective in reducing the evaporation losses of petroleum that today practically all operators are using this type of equipment. It has been shown, however, that vapor-tight tanks should be supplemented with additional measures which will further reduce evaporation. Probably the most effective use of the supplemental measures are found on the small producing leases where the breathing losses from vapor-tight stock tanks materially affect the volume and gravity of the stored oil. The breathing loss from a vapor-tight stock tank that is filled and emptied daily is a negligible quantity. Also, the filling loss, which on the average varies between 0.1 and 0.2 per cent, usually is not of a sufficient quantity to affect materially the value of the crude. However, the combined breathing and filling losses from a vapor-tight tank requiring several days to fill are of sufficient importance to warrant the use of measures in addition to the vapor-tight tanks. The breathing losses are caused by atmospheric variations. Probably the greatest are the changes in atmospheric temperature which cause changes in temperature of the vapors in the tank. During the day, as the temperature increases, the gasoline-saturated vapors in the tank expand and are forced out into the atmosphere. At night the vapors are cooled and contract, drawing into the tank fresh air, which becomes saturated with gasoline vapor and is forced out of the tank during the following day. In addition to the maximum and minimum temperature variations there are many smaller variations throughout a 24-hour period caused by showers, clouds, winds and other atmospheric conditions which likewise cause the tank to breath.

The two most common measures used by lease operators for reducing breathing losses in vapor-tight tanks are, first, operating lease tanks under pressure, and, second, the use of light-colored paints and tank houses. In this report these two methods are discussed together with their adaptability to lease operation. Results of experimental observations are given which show the reduction of evaporation losses where these supplemental measures have been used.

Maintaining of Pressure on Tanks

The operation of lease tanks under pressure prevents gasoline-laden vapor from leaving the tank until certain definite and predetermined pressures are built up within the tank. This restricts the movement of vapors due to temperature variations and reduces the movements due to other atmospheric changes such as windage and barometric pressure.

The holding of pressure on lease tanks is not limited from considerations of construction, for there are now on the market bolted tanks operating under working pressures up to 18 or 20 ounces, and many producers are using riveted or welded tanks, operating under pressures as high as five pounds. Local conditions of lease operation, however, may limit the amount of pressure held on stock and flow tanks.

It must be kept in mind that to eliminate all breathing by the use of pressure relief valves, the valves must be set to operate at a slightly higher pressure than the maximum developed within the tank. This internal pressure is the vapor pressure of the oil plus the pressure due to the expansion of the air-vapor mixture caused by atmospheric changes.

Tests on Pressure Tanks

In order to determine the actual value of holding pressure on lease stock tanks, a comparative test was made between two 65-barrel tanks; one was equipped with a pressure and vacuum release valve operating at about one and one-half ounces pressure or vacuum; the other was equipped with a valve operating at 16 ounces pressure and two ounces vacuum. The valves were of the dead weight type.

In order to duplicate filling conditions on a small lease, the test tanks were partly filled at regular intervals with oil having an average gravity of 37.5 degrees A. P. I. Gages, temperatures of the oil, and samples were taken at the beginning and end of each filling period. From this data the evaporation loss for each interval was obtained, also the total evaporation loss for the entire filling period. The oil passed through a combination flow tank and gas separator before entering the stock tanks.

Results of Tests on Pressure Tanks

Observations were made over a period of 36 days during the months of January and February. The average atmospheric temperature was 46 degrees F. The total volumetric loss for the tank equipped with the two-ounce pressure relief valve was 1.40 per cent, with a gravity loss of 0.55 degrees A. P. I. The total volumetric loss for the tank equipped with the 16-ounce pressure relief valve was 0.59 per cent, with a gravity loss of 0.3 degrees A. P. I.

The evaporation losses sustained in this test are much below average, due to the low atmospheric temperatures and other winter conditions. During the summer months the losses would be at least twice those indicated by the test.

The results of this test and other tests on lease storage show that a tank equipped with a pressure relief valve, operating at 14 to 16 ounces pressure, will reduce the evaporation losses about 60 per cent, as compared with a tank equipped with a relief valve holding about two ounces pressure, with other conditions equal.

The effect of pressure relief valves in reducing the amount of time the tank is breathing out is given in Figure 1, which shows the hourly temperatures and pressures of the vapor in a 250-barrel lease tank for a four-day period during the latter part of May, 1926. This test probably represents average temperature conditions in the Mid-Continent area. The tank was equipped with a relief valve operating at 15.2 ounces pressure and two ounces vacuum. Fig. 1 shows that on May 29, the tank vented to the atmosphere about 110 minutes. No venting took place on May 30, although the temperature in the vapor space reached 110 degrees F. During the early morning hours of May 31, the temperature of the vapor space was 10 degrees F. lower than the minimum reached the preceding day. This caused a considerable contracting of the vapor with the resultant flow of fresh air into the tank. For this reason the tank venter for a short period on May 31, although the maximum temperature was only 103 degrees F., or 7 degrees F. less than the preceding day. The minimum temperature was 5 degrees F. lower than any preceding day recorded on the curve, and the maximum temperature was about 113 degrees F. This resulted in the tank venting for about 30 minutes. This curve shows clearly the effect of temperature variation upon the breathing of the tank. It also indicates that if the tank had been equipped with a free vent, every small variation in temperature would have caused a movement of vapor (either contraction or expansion) in the tank.

Figure 2 shows the pressures and temperatures developed, under operating conditions, in a 250-barrel lease tank equipped with a relief valve operating at 13.6 ounces pressure and 2 ounces vacuum. The data covers a period of 25 days. Gaging operations are shown by a rapid drop in pressure when the gage hatch is opened, and the rebuilding of the pressure after the gage hatch is closed, as at noon

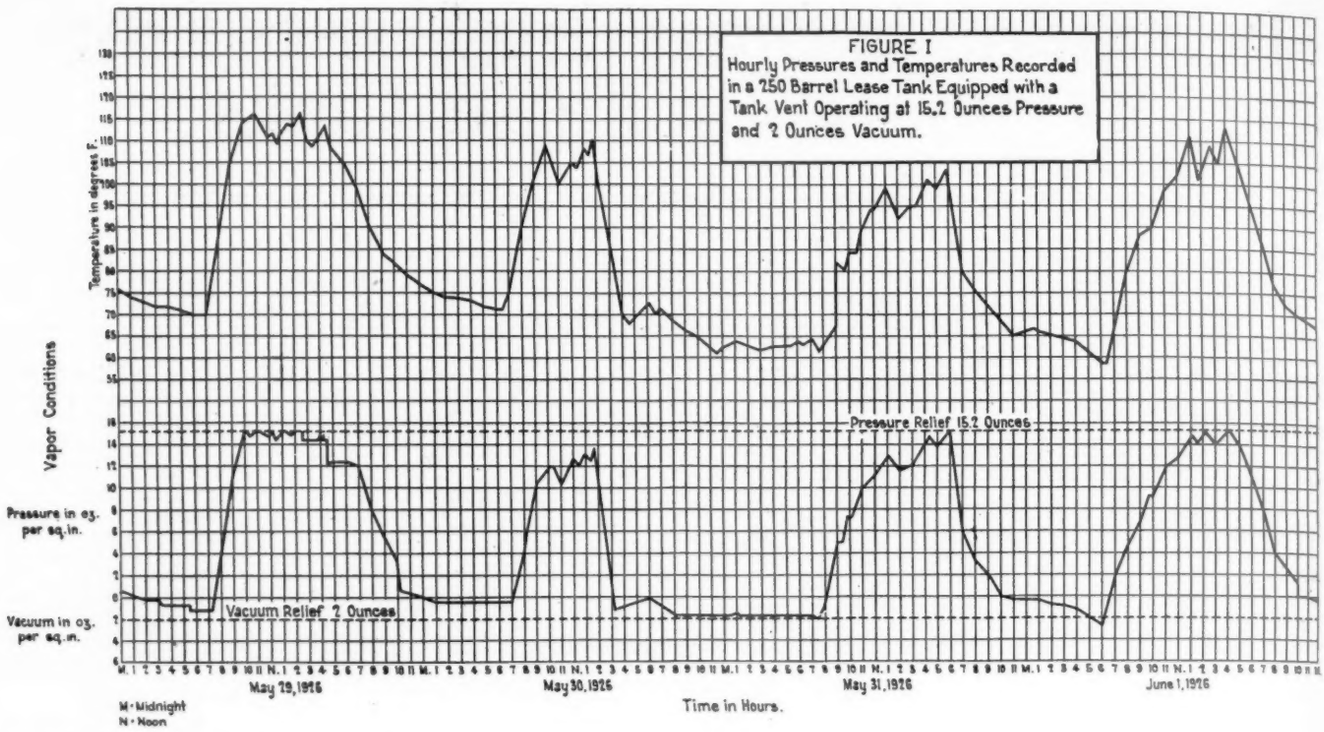


FIGURE I
Hourly Pressures and Temperatures Recorded in a 250 Barrel Lease Tank Equipped with a Tank Vent Operating at 15.2 Ounces Pressure and 2 Ounces Vacuum.

on August 16. Pipe-line gage, "turn on," and final gage are shown beginning with the gage and "turn on," August 18, and the final pipe-line gage and "turn off" for the morning of August 19. The filling operation is indicated by the excessive pressures developed on August 27.

The Effect of Light-Colored Paints and Tank Houses

Although the value of light-colored paints has been discussed in a previous report*, it might be well to state two of the principal reasons for the use of light colored paint. First, light-colored paint reduces the breathing of the tank by reducing the variations of the temperature of the vapor space. Second, it reduces the temperature of the vapor and the surface temperature of the oil. By lowering the surface temperature of the oil the vapor pressure is reduced; this greatly reduces the breathing of the tank and the amount of gasoline vapor in the air-vapor mixture above the oil.

Tank houses reduce the evaporation losses in the same manner as light-colored paints, that is, by reducing the breathing due to temperature variations and by reducing the vapor pressure of the crude. However, care must be exercised in the use of tank-houses, for this type of construction accelerates the flow of air around and over the tank, similar in action to a flue. If the tank is not vapor-tight, the use of the tank house probably will increase evaporation losses due to the increased circulation of air over the oil surface.

Relative Value of Light-Colored Paints and Tank Houses

In order to determine the relative value of light-colored paints and tank houses, three 250-barrel lease tanks, one painted with aluminum paint, one painted red, and the third protected by a wooden tank house, were equipped with recording thermometers and observations were taken over an extended period of time. All of the tanks under observation were of the same make and equipped with a combination gage hatch and vacuum and pressure relief valve. In this valve the pressure relief is of the dead weight type, excessive pressure raising the entire cover, allowing the air vapor mixture to vent through the gage hatch. The pressure valve operates at 16 ounces. The vacuum relief is operated by a vanadium steel spring which may be regulated to open at from one-half to four ounces of vacuum. In this test the vacuum valve was set to operate at two ounces. Before opening the gage hatch for sampling the oil or gaging, the pressure in the tank is released by pushing down the plunger in the center of the valve cover. This allows the excess air-vapor mixture to escape through the vacuum vent.

Table 1—Average Sample of Oil Used in Comparative Paint and Housed Tank Test

AIR DISTILLATION

Specific gravity, 0.843.
A. P. I. Gravity, 36.3°.
Per cent water, trace.

DISTILLATION, BUREAU OF MINES, HEMPEL METHOD

Air Distillation.
Barometer 745 mm.
First drop: 30° C. (86° F.).

Temp. °C.	Per cent cut	Sum per cent	Sp. gr. cut	A. P. I. cut	Temp. °F.
Pp to 50	1.4	1.4	0.655	74.5	Up to 122
50- 75	1.4	2.8	0.655	84.5	122-167
75-100	3.7	6.5	0.711	67.5	167-212
100-125	6.4	12.9	0.735	61.0	212-257
125-150	5.8	18.7	0.754	56.2	257-302
150-175	5.3	24.0	0.771	52.0	302-347
175-200	5.0	29.0	0.788	48.1	347-392
200-225	5.6	34.6	0.806	44.1	392-437
225-250	5.6	40.2	0.818	41.5	437-482
250-275	6.7	46.9	0.832	38.6	482-527

APPROXIMATE SUMMARY

	Per cent	Sp. cut	°A.P.I.
Light gasoline.....	6.5	0.687	74.5
Total gasoline and naptha	29.0	0.744	58.7
Kerosene distillate.....	11.2	0.812	32.8
Gas Oil.....	6.7	0.832	38.6

Crude Oil Used

The crude oil produced on this lease had an average gravity of about 36.3 A. P. I. with a gasoline and naptha content of 29 per cent determined by the Bureau of Mines, Hempel method. A distillation record of the average crude is shown in Table 1.

Discussion of Test

The comparative observations were started in March, 1926, and extended through October of the same year. The vapor temperatures in each tank were obtained with recording thermometers which were checked at intervals of four weeks. At these times, a general inspection of each tank was made to see that it was in first class condition and that no oil or dirt had collected on the tank that would effect the value of the different colored paints. All observations were made during the normal operation of the lease.

Results of Test

Observations made during the month of May were selected for discussion as they represent average conditions throughout the test period; these are shown in Table 2.

Table 2 shows the average daily minimum temperature for the housed tank to be 63 degrees F. This figure is the highest average daily minimum of the three tanks. An explanation for the comparatively high minimum temperature for the housed tank probably depends upon the laws of heat absorption. During the day the wood absorbs heat from the sun; at night the heat is given off slowly, and some of it is taken up by vapors in the

* Schmidt, Ludwig, "Effect of Tank Colors on Evaporation Loss of Crude Oil," serial 2677, Bureau of Mines, 1925.

Table 2—Comparative temperature data on three 250-barrel lease tanks operating under 16 ounces pressure, one painted red, one aluminum, and the third equipped with wooden tank-housing.

	Color of Tanks		Housed	Atmospheric
	Red	Aluminum	Tank	Temperature
Maximum temperature, in degrees F.	127	112	101	93
Minimum temperature, in degrees F.	52	44	45	40
Average daily maximum temperature, in degrees F.	108	92	89	82
Average daily minimum temperature, in degrees F.	60	57	63	58
Average daily temperature variation in vapor space, in degrees F.	48	35	26	24
Average temperature of vapor, in degrees F.	84	74.5	76	70
Estimated average daily increase of pressure due to thermal expansion of vapor in lb per sq. in.	1.32	1.09	.72	

tank. This action tends to retard the cooling. Also the housing prevents the cooling effect on the tank of occasional showers and of any dew or other moisture which collects on objects during the night.

The average daily increase of pressure due to the thermal expansion of the vapor as shown in Table 1 was calculated from the average temperature variations and does not include the increase of pressure due to the increase of the vapor pressure of the crude oil, which is different for crude oils.

Actual evaporation tests were not made on these tanks. However, the gage tickets of the oil run from these tanks show the economic value of the aluminum, red, and housed tanks. The oil run varied in gravity from 35.6 degrees A.P.I. to 36.7 degrees A. P. I., the average being about 36 degrees A. P. I. The gage tickets of oil run from each tank during the months of May, June, July and August show that for the housed tank the average gravity was 36.34 degrees A. P. I., with nine per cent of the oil run being under 36 degrees A. P. I.; for the aluminum painted tank the average gravity was 36.21 degrees A. P. I. with 14 per cent of the oil run being under 36 degrees A. P. I.; and the oil run from the red tank had an average gravity of 36 degrees A. P. I. with 37.5 per cent under 36 degrees A. P. I.

These records show conclusively the economic value of the light colors over dark colors for painting tanks; also the value of tank houses.

Although the housed tank showed best results in this test, it should be kept in mind that installations must be made with care. First, if the tank is not kept vapor-tight, the housing, acting similar to a flue, increases the circulation of air in the vapor space above the oil. Second, wood housing is inflammable and becomes a greater fire hazard as the boards become saturated with oil. Third, the space between the tank and housing often becomes a trash heap due to the accumulation of rags, waste, and other refuse, which gives the lease an unsightly appearance as well as increasing the fire hazard.

Conclusion

These tests indicate that it is doubtful if pressure alone or the use of light-colored paints, or insulation alone will be the most economic methods of reducing the breathing losses from vapor-tight tanks. It is probable that the most effective method will consist of a combination of light-colored paints and the holding of suitable pressures on the tanks. The amount of pressure required depends upon the lease operation and the physical characteristics of the oil handled.

Acknowledgements

This investigation was conducted under the direction of the Bureau of Mines with the cooperation of the State of Oklahoma.

The Phillips Petroleum Company assisted in the preparation of this report by furnishing the oil and tanks for several of the field tests .

Ben E. Lindsly, acting superintendent; F. W. Lane, petroleum chemist, and E. L. Rawlins, associate natural gas engineer of the Bartlesville station of the Bureau of Mines, assisted in the preparation of the report with valuable suggestions and criticisms. Peter Grandone, junior chemist, and H. M. Thorne, assistant petroleum chemist, assisted in collecting the field data and made the distillations and gravity determination. The drawings were prepared by John Trevorrow and J. M. Seward of the Bartlesville Station.—Reports of Investigations, Bureau of Mines, Department of Commerce.

Start Welding Magnolia Pipe Line Loop

Dallas, Texas.—Welding crews were put to work early this week on Magnolia Pipe Line Company's new 10-inch crude line, paralleling its Mid-Continent system from Corsicana station to Beaumont, a distance of about 240 miles. Magnolia's proposal to increase its trunk line capacity with this new unit was announced several weeks ago. Four welding gangs are to be scattered at intervals between Corsicana and Beaumont, and a tentative schedule of six miles of completed line daily has been made, thus completing the work in less than two months.

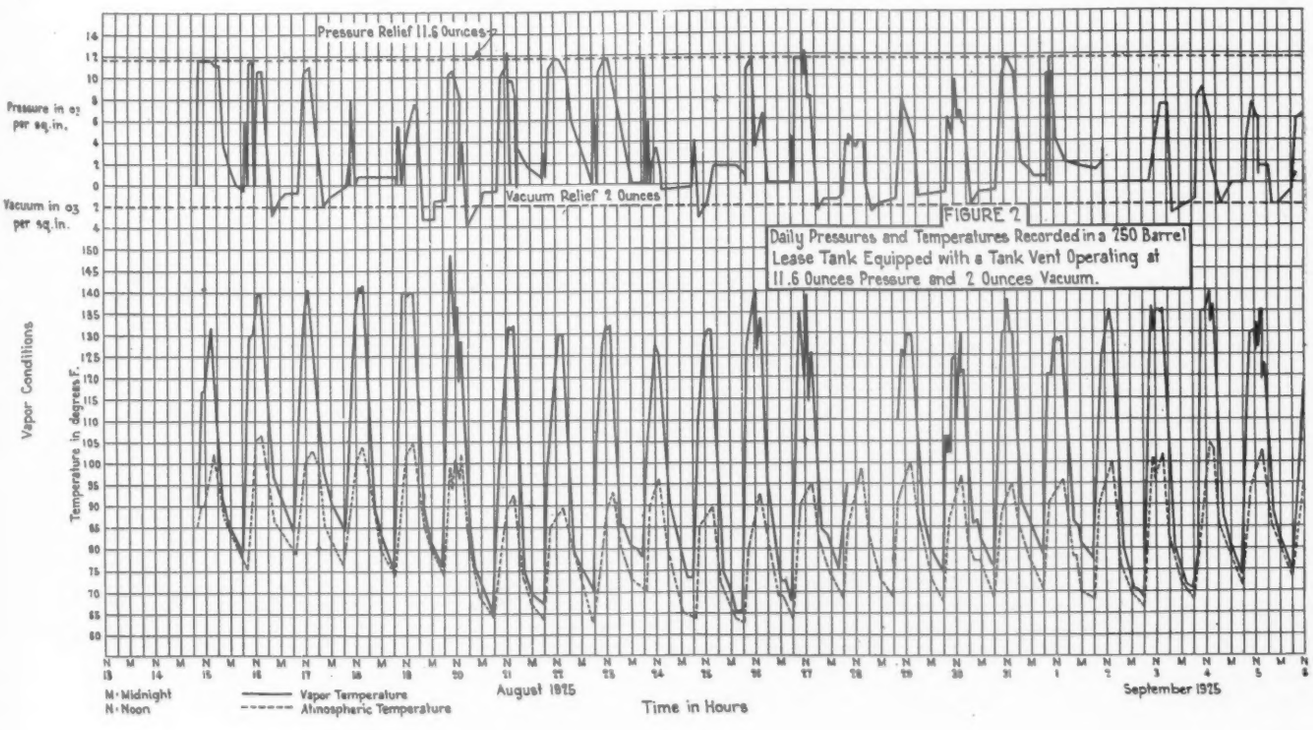


FIGURE 2

Daily Pressures and Temperatures Recorded in a 250 Barrel Lease Tank Equipped with a Tank Vent Operating at 11.6 Ounces Pressure and 2 Ounces Vacuum.

Humble Seeks Three-Year Contracts in West Texas

(*Continued from page 26*)

contract, using a single eight-inch pipe, and first runs were made on the morning of April 18, 1925. This unit was doubled in capacity in 1926, and about January 1, 1927, an extension was built to the Crane-Upton area. During 1927 Humble built a second trunk line system out of West Texas, taking a direct course from the Big Lake area to export terminals on the coast, near Corpus Christi. This new unit added about 50,000 barrels daily to its pipe line outlet, making a total of 90,000 barrels daily.

The extension of Humble's trunk line to the Crane-Upton district has been followed by a progressive campaign of reaching out to new oil areas as soon as proven for commercial production. A separate six and eight-inch line was built to the Church and Fields area, Crane County, and early last September Humble began operating an eight-inch line from Yates field to its Kemper main line station, near the Big Lake field. Construction work has been under way for some weeks on an eight-inch line from the Hendricks field, Winkler County, to McCamey station, a distance of about 80 miles. Humble built a small line from the wildcat oil producer in Runnels County to a nearby tank car rack at Benoit, and began running oil last September in accordance with contract made with producers for a period of six months.

Proration

This liberal policy of laying lateral lines to new oil producing areas in the West Texas district promptly after their discovery led to crude receipts exceeding available transportation and storage facilities held by Humble in July, 1927, and the producers, except those protected by contracts, in the Church and Fields area were put on a proration basis effective 7 a.m., July 19. This action trimmed Humble's outside crude purchases in the Church and Fields area from about 35,000 to 20,000 barrels, and the original proration order is still in effect.

The first bona fide competition for West Texas crude connections was given Humble late in 1926 and early 1927, when Southern Crude Oil Purchasing Company, subsidiary of Pan-American, which is in turn controlled by Standard of Indiana, entered the Crane-Upton district with a gathering system. Southern's representatives solicited crude for purchase from every producer within reasonable reach of its gathering lines, and built a six-inch line to the Church and Fields area to obtain a 10,000-barrel daily contract from Tidal Oil Company and Thurman-Maxwell. This latter contract was made in February, 1927, for a period of one year, and expires next month. Southern's officials were asking for between 50,000 and 70,000 barrels daily from West Texas producers, and it was planned to move this oil in tank cars to the Mexican Petroleum Company's big skimming plant at Destrehan, Louisiana, to replace Smackover and Mexican heavy oils, with a direct trunk line to the Gulf Coast being proposed.

Southern bought into production in the Hendricks field late in 1926, and when this area became proven for prolific production during the past summer a big production and drilling campaign confronted Southern. However, before this big production materialized, Southern eased off on its aggressiveness for outside oil, and in November, severed all pipe line connections with outside leases in West Texas not protected by contracts. This withdrawal of Southern from the West Texas crude market left Humble without competition from a major buyer, but during the past few weeks Magnolia Petroleum Company has showed some signs of becoming interested in buying quantities of this cheap priced low gravity oil. However, Magnolia's purchases will be of little help to the small producers until additional pipe line capacity can be built into the district, as a contract has been made to transport 10,000 barrels of West Texas crude daily to the Gulf Coast for Atlantic Oil Producing Company, and the crude swap with Simms Oil Company leaves little hopes of Magnolia giving aid for some months.

Water Causes Drop in Panhandle Output

Amarillo, Texas—A sharp drop in daily production in the Gray County section of the Texas Panhandle will follow the flooding of M. J. Delaney et al's big producer in the Jackson-Bowers area with water after drilling deeper during the past week. Delaney et al's Jackson 1 was completed last October, making 7,000 barrels of 44 gravity oil daily from granite wash pay at 2984 feet, and has averaged above 4000 barrels daily. The well was flowing about 4400 barrels of oil daily, including five per cent water, and when carried deeper to 2996 feet, the water jumped to one-third of the fluid production. The natural flow ceased late last week, but an effort is being made to plug back and revive the gas pressure.

The Jackson-Bowers area is accounting for 10,065 barrels of high gravity production in Gray County, and the loss of the Delaney well will materially reduce the production next week. This area has contributed a half dozen big wells since the completion of the Delaney producer with a high initial, but late completions by Skelly Oil Company, Danciger Oil Refining Company, Phillips Petroleum Company, Phillips Petroleum Company and Mid-West Exploration Company have been of small caliber, thus indicating a very spotted condition.

Daily average production during the past week on the Bowers and Jackson leases in Gray County, is shown below by companies, with the number of producing wells included:

Company—	Wells	Prod.
Danciger O&R Co. et al	3	4,955
M. J. Delaney-Eslick, et al.	1	3,160
Gibson Oil Corporation	1	215
Gulf Production Co.	1	690
Majestic Oil Company	3	595
Phillips Petroleum Co.	3	330
C. E. Pollard, et al	1	120
Totals	13	10,065

Drilling Starts on Late Released Osage Land

Tulsa—The extent of the new activity along the eastern edge of Burbank field is seen in approximately 20 new operations started since the Osage Indian land sale of December 12. Kewanee Oil & Gas has six wells drilling on its $405,000 quarter, the northeast of section 28-27-6. Lewis Gas Products Company has four wells under way on its $600,000 quarter, the southwest of section 2-26-6, which was the record quarter for high price at the sale. Lewis Production Company is drilling one well in the northwest of section 11-26-6. Phillips Petroleum Company early this week was starting C. Roach 1, in the northwest of section 2-26-6, a tract which brought $52,000 at the sale. I. T. I. O. Company has its No. 1, in the northeast of section 8-25-7, west of Pawhuska, going down, and is about ready to start drilling Delmar 1, in the northeast of section 4-23-10, in the Wildhorse district. Delmar 4, in the southeast of section 17-23-10, was nearing 2000 feet at the opening of the year.

Marion County, Kansas

Wichita, Kansas.—Loriaux & Irwin's Weston 1, in the southwest of the northwest of the northwest of Section 23-17s-4e, Marion County, Kansas, swabbed 100 barrels of 37 gravity oil from shale encountered at 2409, and penetrated 11 feet, December 27. In this hole chat was topped at 2356 and drilled to 2365 feet with a show of oil. Two hundred feet of water developed from 2385 to 2390 feet. A second oil showing was picked up at 2395 to 2409 feet, and production was obtained after drilling in 11 feet.

Walter M. Miller, Marland Refining Company executive at Ponca City, Oklahoma, was confined to a hospital for a short time last week as a result of a badly bruised shoulder sustained by a fall from his horse at the polo grounds.

John Saladin, field man for Prairie Oil & Gas Company at El Dorado, Kansas, was a visitor at the Tulsa quarters of the company while in that city several days last week.

Pinching Partly Relieves Hendricks Water Trouble

Appearance of water is having tendency to speed up development and two new pipe line projects have been started to handle the oil

By H. H. KING
Staff Representative

SAN ANGELO — Partial results were scored during the past week by operators in the Hendricks Field, Winkler County, in halting the spread of water into two sperate areas by choking the flow of oil. Ten wells in the field were making water during the past week, including the three offsets to Magnolia's Hendricks 2, which registered 85 per cent. cut oil when deepened six feet to try and determine the source of the water trouble. Faulty casing seats have been blamed by some of the operators for the sudden appearance of water in big wells located comparatively high on structure, and the water is finding its way through the porous oil pay into nearby producers.

Gulf Production Company's Hendricks 1, which was reported last week as being one of the first wells in the field to develop water trouble, was making about 95 per cent. cut oil early this week with only about 150 barrels of pipe line oil production daily after treating. Pure Oil Company's Hendricks 1 continues to make about 50 per cent cut oil when allowed to flow. Landreth and Roxana's Hendricks 1-"B", a southwest offset to Magnolia's water well developed seven per cent. water while flowing about 4000 barrels daily, but the volume of cut oil was reduced to less than one per cent. on the following day by choking the flow. Humble's east offset to this well was flowing 2600 barrels daily when 15 per cent. water appeared, so the well was ordered shut in pending reaction of a treating plant. Humble's Hendricks 3-"B", located on the southeast side of the field was showing a little water, while making 2700 barrels daily late last week. Atlantic's Hendricks 1-"D", a west offset to Magnolia's water well, was cutting seven per cent. at last reports, while flowing 3000 barrels daily.

The appearance of water in the oil pay is having a tendency to speed up developments in the Hendricks field, and during the past week two new pipe lines were ordered built by small operators to distant tank car racks. Texon Oil and Land Company is starting a line to the railroad to sell oil on contract to a skimming plant to be erected by Eugene Griswold and associates of Wichita Falls, and Landreth is building a six-inch line to car rack at Monahans to start crude deliveries on a million-barrel crude sale to the New Orleans Refining Company at 60 cents per barrel, f. o. b. buyer's cars.

HENDRICKS FIELD OPERATIONS

The status of operations in the Hendrick field, Winkler County, Texas, at the close of last week is shown below by companies:

Companies—	Locations Drilling Rigs	Tests	Tests in Big Lime	Completed Wells	Initial Prod.	Daily Average Prod.
Amerada Petroleum Corp.	..	..	1	..	.....	.....
Atlantic Oil Prod. Co.	..	1	6	2	6,200	6,340
Atlantic Oil Prod. Co.	..	1	..	..	.....	.....
Cranfill-Reynolds	..	1	1	2	11,500	*5,610
Eastland Oil Company	..	..	1	..	.....	.....
Gulf Production Company	2	2	..	6	16,695	*3,855
Humble Oil & Ref. Co.	..	2	2	3	12,400	*5,485
Independent Oil & Gas Co.	4	4	2	3	8,070	*610
Landreth Prod. & Roxana	1	1	1	3	10,800	9,110
Magnolia Petroleum Co.	..	2	2	2	6,000	*2,965
Joe Maxwell & Turman	2	2	3	..	.....	.....
Murchison-Cranfill Oil Co.	3	..	2	4	6,175	1,005
Republic Production Co.	1	1	1	1	6,000	3,455
Roxana Petroleum Corp.	2	5	4	1	10,000	*3,255
Sheldon & Burden	..	..	1	..	.....	.....
Southern & R. A. Westbrook	2	2	9	4	8,150	7,480
Southern & Dixie Oil Co.	..	4	6	6	7,260	*4,720
The Texas Company	1	3	4	1	5,000	*435
Texon Oil & Land Company	..	..	4	1	4,100	*1,435
Totals	18	31	50	39	118,350	55,760
Totals previous week	26	27	50	37	113,750	62,055

*Production partially pinched.

The Texas Pipe Line Company is unloading eight-inch pipe at Monahans, preparatory to laying a line from the field, but actual construction has been deferred, pending closing of a deal whereby Texas buys Pure Oil Company's holdings in the Hendricks and other West Texas fields.

Owen Sloan Oil Company's Dora Roberts 2, an east offset to Magnolia's discovery well in the deep lime pay on the Howard-Glasscock County line, is showing for a commercial well in new pay horizon at 2570 to 2590 feet, having swabbed 200 barrels of oil in three hours. Magnolia's discovery well is producing from the 2900-foot pay, and continues to flow 2700 barrels of oil daily.

Extension of Production of Yates Field Sought

San Angelo, Texas—A fresh drive to extend the oil producing area in the Yates field has been started since the introduction of the acreage basis for proprating pipe line runs from the field, and semi-wildcat locations have been ordered drilled by Sun Oil Company, Phillips Petroleum Company and Mid-Kansas-Transcontinental Oil Company. The latter two concerns are making their first try for production in the field.

New drilling and completions have slumped off during the past two weeks in the Yates field because of no incentive being made to build up a greater potential output under the new proration plan, which was put into effect January 1. However, a number of big caliber wells were brought in last week, including Gulf Production Company's Smith 4, which was rated at 18,000 barrels of pipe line oil on initial flow at 1276 to 1425 feet, Mid-Kansas and Transcontinental's Yates 17 "B," is credited with having gauged 1915 barrels during one hour open flow after drilling 65 feet into the lime pay to a total depth of 1075 feet. The same interest's Yates 18 "B," located in section 61 and on the west bank of the Pecos River, apparently defined the oil area to the north in this particular section as it flowed sulphur water at 1108 feet after passing up a show of oil at 1072 feet and is now shut down.

Roxana Buys 600 Acres on Houston Channel

Houston—Exercising the option which it held, Roxana Petroleum Corporation early this week purchased 600 acres of land along the Houston Ship Channel near Houston for $300,000, according to information obtained from Carl Barker, an official of the company at St. Louis.

Although it has been rumored that the site will be used for a new refinery, Mr. Barker would make no statement as to what will be done with the property, saying that the corporation has "no present plans for its use."

The 600 acres of land is known as the Postel tract, and runs from the La Porte highway at Deer Park to the Ship Channel. It is a short distance down the channel from the Sinclair Refining Company's plant and several other refineries.

Seaport States Lead in Quantity of Fuel Oil Consumed, Survey Shows

The consumption of fuel oil in this country is largely concentrated in the States located directly on the sea coasts, says the United States Bureau of Mines, Department of Commerce, following a survey, of gas oil and fuel oil distribution during 1926, conducted in co-operation with the American Petroleum Institute. Four-fifths of the national domestic deliveries of these oils were made in the States bordering the Pacific and Atlantic oceans and the Gulf of Mexico. Three States, California, Texas and Louisiana, accounted for 43 per cent of the national domestic distribution. The survey, made by E. B. Swanson, economic analyst, covered a distribution of 340,481,000 barrels, amounting to approximately 97 per cent of the oil marketed.

Two-thirds of the gas oil and fuel oil marketed during 1926 was delivered for various shore uses, while the remaining third was exported or used as bunker oil on ocean-going vessels. Exports, including shipments to United States territories, totaled 38,351,000 barrels, or 10 per cent of the total distribution; 84,988,000 barrels, or 22.5 per cent, were delivered as bunker oil to ocean-going vessels, including army transports and navy vessels; and 255,493,000 barrels, or 67.5 per cent, were delivered to commercial and industrial users within the United States.

Among domestic consumers, the railroads and oil refineries alone consume as fuel nearly one-half of the total oil marketed. Railroads lead in consumption, having received 74,704,000 barrels, or 29 per cent; oil companies consumed 48,846,000 barrels, or 19 per cent, as fuel at the refineries or in the field; gas and electric power plants received 33,023,000 barrels, or 13 per cent; smelters, mines, steel mills and foundries received 25,245,000 barrels, or 10 per cent; and other manufacturing plants, 45,484,000 barrels, or 18 per cent. Commercial and domestic heating accounted for 17,070,000 barrels, or 7 per cent; 484,000 barrels were used as fuel on inland steamers; leaving a balance of 10,637,000 barrels, or 4 per cent, for miscellaneous uses and non-segregated distribution by Atlantic Coast jobbers.

Domestic deliveries in the territory north of the Ohio and Potomac Rivers and east of the Mississippi, totaled 86,694,000 barrels, or 34 per cent of the national total. Comparison is made of this regional demand with national deliveries because the national demand for bituminous coal is centered in this area, 66 of the 73 principal bituminous coal consuming centers and 70 per cent of the consumption being credited to this area. Particular interest undoubtedly would center in the character of oil demand in this region, as any direct fuel competition of oil with coal, if present, probably would be evident.

Of the domestic deliveries credited to this region, 15,544,000 barrels were delivered to gas and electric power plants; 17,543,000 barrels were consumed by oil companies as fuel; 15,131,000 barrels were delivered to steel mills, foundries, smelters, mines and shipbuilding plants; 9,547,000 barrels for commercial and domestic heating; 2,361,000 barrels to railroads; and 21,089,000 barrels to other manufacturing plants. Oil delivered to gas and electric power plants was used principally in the enrichment of artificial gas, as almost all of the electric power generated from fuels was produced with coal. Oil received by steel mills, foundries, smelters and mines was used largely in furnaces, in which use substitution would depend more upon the use of pulverized coal or gas produced from coal than upon raw coal. Oil delivered to railroads in this region was used in ferry boats, shops, Diesel engines, warming-up of coal-burning locomotives and as a locomotive fuel in timber preserves. Consumption by oil companies was principally in the large refineries located directly on the Atlantic seaboard and oil deliveries to manufacturing plants were largely to the shoe leather, textile and paper industries centered in New England and plants located in New Jersey and in the vicinity of New York and Philadelphia.

South Louisiana Very Active Wildcat Area

(Continued from page 34)

Two of the tests that were abandoned were old wells that had been drilled deeper: Rex Petroleum Company's Ecker 1 at Edgerly, abandoned at 2990 feet in salt water; and the Vinton Petroleum Company's Gray 48 in the Vinton field, which tested salt water at 2830 feet. The other test abandoned was The Texas Company's Latrielle 106 at Evangeline, the depth of which was 2410 feet.

Completions in Texas Coast

In the Texas Gulf Coast section, three wildcats were abandoned, and there were three completions in proven fields, including two small producers. The larger of the two producers was Republic Production Company's Dolbear 39 at Hull. After being deepened to 2400 feet, it was made a 150-barrel pumping well. The other producer was Ada Belle Oil Company's McGoldrick Stateland 117, which at 1180 feet made five barrels of oil and 50 barrels of water on the pump. At Orange, the Gulf Coast Oil Corporation's Leon 5 was dry after being deepened to 3350 feet.

The wildcats completed in the Texas coastal region were: Jim McMurry's Crosby 1, five miles northeast of Port Arthur, Jefferson County, abandoned at 3350 feet; Beaumont Oil & Prospecting Company's Tyrrell 1, also in Jefferson County, three miles northwest of Beaumont, abandoned at 4200 feet; and Judge Titwell et al's Gardner 1, five miles east of Davis Hill, Liberty County, a failure at 3510 feet.

Last week, Roxana Petroleum Corporation's Allen Bernard 1 on Allen Dome, Brazoria County, began producing a little oil. Agitated with the bailer, it produced 25 barrels in 24 hours, but would flow only after being agitated.

One new wildcat location was made in Coastal Texas during the week: The Texas Company's Green 1 in the South Liberty district of Liberty County. It is 1227 feet west and 177 feet north of the southeast corner of the lease.

Market Situation Is Looking Better in Oklahoma

(Continued from page 25)

within the next few weeks and a more accurate trend ascertained.

Another good well has been completed in the new Rincon field. Unlike the discovery well, the latest producer was brought in with comparative ease. With a dozen wells drilling, many of which are nearing the oil sand, the field will soon be bidding for honors as a major district, it is thought. If the water problem is solved and the wells produced from several hundred feet of sand, it is believed that much larger producers will result.

California production has shown a series of small declines, but is expected to regain all lost ground, plus several thousand barrels, during the next two months. The small declines in the old fields is expected to be considerably more than offset by the flush production in the Long Beach field.

The local demand for gasoline during the holidays was reduced considerably, due to the prolonged rainy weather, but did not decline enough to throw the month behind December of last year.

Persistent rumors that California crude will be increased seem to have little foundation. Storage is still being drawn upon, but at a rate smaller than during the summer months. With plenty of oil in sight for the next few months, an increase seems unlikely.

Government Has Ready Means of Limiting Production

(Continued from page 31)

ing in neglect, or worse, tending to early abandonment.

"Finally, if the leaders of the industry are sincere in desiring to secure relief from overproduction and ready to co-operate with government agencies in practicable conservation of this important natural resource, the law firm submitting the above opinion and others known to be in sympathy with the aims and ends in view, might be employed, and acting through your commission or direct, Interstate Commerce Commission aid be invoked to exercise the authority now lodged in that agency of government, and thus bring about *prompt* and *effective* relief on the most pressing phase of the problem, following which the other problems which the public, the industry and your commission are interested in correcting, could be thrashed out to construction conclusions."

Revise Estimates on Deep Sand at Long Beach

Two big wells discount theory that only small production is to be had in center of the old field

By BRAD MILLS
Staff Representative

LOS ANGELES. — The popular theory that the deep zone near the center of the Long Beach field has been largely depleted was given a severe jolt by the completion of a 3250 barrel well on an inside lease. After a series of small wells on top of the structure, considerable weight was given reports that few, if any, sensational wells could be expected in the "high" part of the field. It was agreed that the inside wells had been producing much deeper in the sand than the edge wells, and that the bulk of the production from deepened wells would eventually come from rather isolated tracts. Figures are being rapidly revised on the basis that large wells may be expected in any part of the field. Certain parts of the inside leases undoubtedly will yield only small wells in the deep zone, but due to the enormous thickness of the sand, sensational developments are expected to explode several theories concerning the wells drilling on many of the old leases. Few really representative wells have been completed near the apex.

Any doubt as to the value of the extreme western edge of the field has been erased by the completion of a 3260 barrel well by the California-Western Oil Company, which until recently had been called the Edens & Wallace H. & B. 1. The new well was completed at 5930 feet and extends the producing limits of the deep zone an appreciable distance. The completion will have a marked effect upon the location of new wells, and indicates a higher peak for the field than developments up to a week ago warranted.

To the Cypress Oil Company goes the credit of completing the only recent large well near the crest of the field. The company's Johnson 1 was finished at 6018 feet, with an initial production of 3250 barrels. The completion gave the inside operators considerable encouragement, since it followed closely behind two rather insignificant wells.

Production Increase

After a series of small declines, production increased during the past week. A smaller number of wells were killed and the two good completions offset the natural decline. Several wells are nearing completion and field production is expected to jump sharply during January.

Activity in the Rincon field has taken on new life following the completion of the Pan-American Petroleum Company's Hobson Fee 3, which came in with an initial production of 1000 barrels. The well proved to be much higher on the structure than the discovery well, although it is located only a stone's throw up the beach. The oil was 31 gravity and unusually clean. The well is producing from only 21 feet of sand. The company profited much from the many obstacles encountered in the discovery well, and was content to utilize only a few feet of the oil sand. The casing pressure has increased to 350 pounds and the tubing pressure to 150 pounds, proving that the field has sufficient gas to flow a large number of wells. Several wells are nearing the oil sand and probably will be completed during January.

Standard Gets S. P. Lease

Los Angeles.—Standard Oil Company will drill on the Southern Pacific right-of-way which runs through the heart of the new Rincon Field. The railroad property is a very choice lease, and offsets holdings of the Pan-American Oil Company, Chanslor-Canfield-Midway, and others, with room for several wells.

After a hard struggle, the Associated Oil Company apparently has succeeded in forcing the cement around the 4¾-inch casing in Cypress 1, the discovery well in the Potrero field. The first attempt to cement the casing at 5283 feet resulted in failure. The well was cleaned out and flowed at the rate of 500 barrels, but the fluid was 90 per cent water.

Activity in the Seal Beach field is confined chiefly to routine operations. Drilling is negligible in the townlot area and limited in the main part of the field also. Production is declining slowly and probably will not drop much below 40,000 barrels in the immediate future.

Mt. Poso

While the General Petroleum Corporation's discovery more than a mile south of the Mt. Poso field is considered important, there is a difference of opinion as to whether the new well opened up a distinctly new producing district. The company's Tribe 1 was recently completed as a 500-barrel well and unmistakably opened up a large area south of the main Mt. Poso field. The crude was similar to that found in the Mt. Poso field and the well had all the earmarks of the older producers in that district. The new producer is located on Section 21-27-28 and was completed at only 1738 feet. The Union Oil Company has still further extended the producing limits of the area by completing Tribe 1, Section 28-27-28, at 1781 feet. The well has not been given a complete test, but actually produced at the rate of 300 barrels for several hours. It is interesting to recall that both companies started their wells at almost the same time, and completed them in similar order. Both wells cut sufficient sand to insure a steady production. The oil from the new extension is 16.4 gravity and contains very little water or sediment. The district will not be extensively developed, due to unsettled market conditions and the fact that the leases are rather closely held.

An unusual well has been completed in the Huntington Beach field by the World Petroleum Corporation. The new producer, M. & B. 7, flowed 1100 barrels during the initial test and was the largest well completed in the area for months. By plugging back from 4425 to 4340 feet the unusual production was obtained. The well is produring from more than 300 feet of sand and promises to be much more than an average well for several months. Just as porduction from the field seems to be on a definite trend downward, small pockets of oil are tapped and the slump is temporarily checked. A 1000-barrel well is extremely unusual; yet the World Petroleum Corporation's completion proves that some surprises are still in store in this once critical field. The Key West Oil Company has completed No. 4 with an initial production of only 50 barrels, of which nearly one-half is water. The well was finished in the shallow tar zone at 2200 feet and was not a representative producer of the upper sand. A string of 12½-inch casing was set at 1990 feet but evidently failed to solve the water problem. It is possible that the water is coming from sources other than around the casing, however. This company formerly operated as the Loftin Oil Company. The partial failure of the Key West producer is not expected to have

an important bearing upon the decision of other operators to complete wells in the shallow sand. The Western Drilling and Production Company completed H. T. 2 as an average producer in the upper zone. Total depth was 2200 feet and the initial production 150 barrels of heavy oil which cut about 10 per cent. Many wells are being stopped in the shallower sands rather than continued to the lower levels, which do not always yield as much as the heavier zone. Occasional prolific pockets will be found in the lower sands, but the general run of completions will be small in either the upper or lower zones, according to petroleum engineers.

Ventura

Hartman 10, the Associated Oil Company's recent completion in the Ventura field, has increased its production from 1850 to 2350 barrels, and is producing nearly 2,000,000 cubic feet of gas. The initial flow of gas was less than 1,000,000 cubic feet. The gravity of the oil has increased to 30.2, with a very small cut in evidence. The well is characteristic of producers completed in the best parts of the field. When the initial is comparatively small, the cleaning up process nearly always brings about a much greater production. The perforated casing run on the oil string is several times as long as that used in many fields, and it often takes more than a week for it to function at its maximum capacity. G. J. Magenheimer has temporarily abandoned the idea of completing his Hartman 1, which failed on production tests at several depths between 6400 and 7300 feet. The well is shut down, with a plug at 6100 feet. A fairly good oil sand was found below 6000 feet, but all efforts to coax the well to produce failed. The test seems to be only a few yards outside the producing limits of the field. The Associated Oil Company is sidetracking drill pipe in Dabney-Lolyd 1, which is only a few feet short of the 7000-foot level. The test is regarded as a wildcat and is already deeper than producers in the main field.

Kern Front

Several wells are nearing completion in the Kern Front field, which is the most active proven area in Kern County. The Bishop Corporation finished the only producer of the week —No. 4—which was a 250-barrel well at 2065 feet. The company used 300 feet of perforated pipe on the 8⅝-inch oil string. The Kern Front field has reported from one to five completions almost every week for several months and has been the center of activity of a large area.

Round Mountain

The Shell Company has stopped drilling at 3760 feet in Elbe 6, the second well started in the Round Mountain by the Elbe Oil Company, and will attempt to produce the main shallow sand found just below 2000 feet. The well, which is located on Section 20-28-29 and only a short distance south of the discovery well, did not have important showings after passing through the shallow sand. No definite zone was expected, but as a last resort the well was drilled as a test of the lower levels. The company will plug the hole back to 1940 feet and drill out to 2250 feet in a last effort to successfully complete the test. With the St. Helens Petroleum Company and the Associated Oil Company shut down in widely separated areas in the field and the Shell's test still in doubt, Round Mountain enthusiasts are admitting that the field may be much smaller than originally thought. The discovery well was the only test to find a saturated sand free from water. The Honolulu Consolidated Oil Company, which recently took over the permits formerly held by the Elbe Oil Company, is planning several tests on Section 20 and 18-28-29, in addition to four wells now drilling at present.

The Pacific Eastern Production Company, after a series of oil and gas showings below 4200 feet, is drilling in sand and shale at 5075 feet in Union Avenue 1, near Bakersfield. The present formation is showing both gas and oil, and a production test probably will be made when the oil showings decrease. More than 1000 feet of oil sand and shale has been cut, but no production tests have been made since the well attracted so much attention at 4393 feet.

Two shallow wells were completed during the week in the Belridge field by the Carneros Oil Company. No. 83 was completed as a 125-barrel well at 670 feet, and No. 84 was finished at 680 feet with an initial production of 150 barrels. All wells in the immediate area are small but produce at a very consistent rate. Considerable attention has recently been given the smaller fields along the western side of San Joaquin Valley, particularly with reference to possible extensions.

The Barnsdall Oil Company has set a string of 11-inch casing at 1810 feet in Edwards 2, a wildcat test near the Goleta field, after having encountered a promising oil sand from 1845 to 1890 feet. The company's Edwards 1 recently opened up a new producing area four miles west of the Goleta field.

Fails To Flow

Bakersfield, Calif.—The General Petroleum Corporation's Kerwin 1, which had been given more than an even chance to open up a new field near Edison, failed to flow on a recent swabbing test. The company is running tubing and will attempt to produce the well on the pump. The test was originally drilled to 4006 feet but was plugged back to 3805 feet for the latest test. The first cementing job was a failure, and it now appears that the more recent attempt to shut off the water has excluded both oil and water. The Kerwin well is located on Section 5-30-29 and only a few miles south of the Round Mountain field.

Lease Trading Active in Kern County

Bakersfield, Calif.—Huge blocks of leases have been changing hands in Kern County, and many new wildcat tests will be made in various parts of the county. Many of the smaller leases are located near this city, Edison, Wasco and Fruitvale. Good showings found in tests northeast of this city and the completion of two good wells outside the main Mt. Poso field have stimulated both drilling and leasing activities. Leases in the vicinity of the Round Mountain, Mt. Poso and Kern River fields have been particularly sought after. The excitement caused last summer by the Pacific-Eastern interest has not completely subsided, and virtually every foot of land around this city has at least been examined carefully. The Standard and Shell have acquired leases near Semitropic, which is located in the bed of the San Joaquin Valley.

Taft, Calif.—The Raleigh Oil Company has cemented a string of 6¼-inch casing at 2918 feet in its well on Section 8-11-23, in the Maricopa-Sunset area, preparatory to testing a promising sand found from 2915 to 2945 feet. The well has attracted considerable interest and promises to extend the producing limits of the adjacent fields. The gas increased until it was necessary to mud off the flow before cementing. A string of 8¼-inch casing was set at 2590 feet but failed to effect a shut-off.

Montana Tax Void

Great Falls, Mont.—Judge Green of the Toole County district court recently decided that the net proceeds tax law of the State was void. This follows closely upon the heels of a recent ruling to the effect that the gross production tax is an operator's tax, and is not to be paid by the royalty owners. The net proceeds tax law has resulted in a heavy tax burden on royalty owners, and is said to have caused much trouble in the industry. It was the subject of special resolutions in the recent meeting of the Montana chapter of the Rocky Mountain Oil & Gas Association, and was due to come up for further amendment during the next session of the legislature. Farmers were fostering the movement.

Casper, Wyo. — Dunn Manufacturing Company of California has presented the electric plant baseball team of Salt Creek, champions of the Twilight League, with a check for $100 in recognition of the winning of the championship. Members of the team will purchase appropriate athletic sweaters with the money.

Emsco Derrick & Equipment Company presented its patrons in the Salt Creek field with boxes of California oranges fresh from ranches on the Pacific Coast.

Seminole Production Goes Down With Thermometer

Zero temperature brings average output to low point on January 2, followed by up-turn with moderate weather; drilling on increase

By WALLACE DAVIS
Staff Representative

TULSA—Zero weather has proved itself to be one solution for cutting over-production even in fields where the crude fails to congeal. A blizzard that swept over the Seminole region over the past week-end, driving the thermometer to zero and below, was the outstanding factor during the week just past, in putting a kink in this area's production to the tune of more than 42,000 barrels in daily average yield.

The low mark for the Seminole area's output since the peak established July 30, 1927, came January 2, when production for the five pools and eight pinched wildcats totaled 326,428 barrels. At the January 3 gauge the greatest extent of the drop growing out of cold weather was realized by the total yield coming back to 338,686 barrels, leaving the figure 30,106 barrels under that of the gauge one week previous.

The following table of Seminole production shows the daily yield by pool for December 26, January 2 and 3, outlining the phenomenal drop due to cold weather, and the subsequent comeback:

	Dec. 26	Jan. 2	Jan. 3
Little River	37,760	34,648	37,273
Bowlegs	110,280	102,085	104,394
Earlsboro	142,182	117,009	124,303
Seminole City	57,465	52,752	52,633
Searight	21,105	19,934	20,083
Total	368,792	326,428	338,686

It is likely that during the present week this total will show further recuperation as weather conditions promised early in the week to slacken up to nearer normal temperature. That the freeze was a menace to wells being produced under pressure is seen in the output from the old Seminole City pool, where the majority of wells are on either air or gas lift, and where some 6000 barrels was temporarily lost. Practically the same thing happened during a previous cold snap six weeks ago, but the old settled area showed a better comeback than those still showing the effects of flush production.

This phenomenal slump in production at Seminole brought the well average in the area down 30 barrels, with 1062 producers making the 338,686 barrels, as compared with the well average for the previous week. Activity in the area declined from 139 wells actually drilling to 130. There were 10 rigs up Tuesday morning, against nine of December 27. The average initial yield of completed producers in the five fields was cut during the week from 1276 to 1269 barrels, with only 7545 barrels new production.

Rate of Decline

If Seminole's daily output does show a continued comeback for several days during the present week, it should at least take care of the natural decline, which is running over a month's period in the neighborhood of 2500 barrels per day, taking the past six weeks as a criterion, and excepting all but natural causes. Until the Earlsboro and Bowlegs sectors reached a stable, settled level, then, from present indications, the Seminole area production as a whole may be figured to continue such a decrease, varying to a smaller drop as the settled point is reached. From that point on out, Earlsboro and Bowlegs might be estimated to follow the action of Seminole City and Searight in holding pretty firm.

Carter Oil Companys Jackson 1, a quarter of a mile south of the edge production at Little River, in the northeast of the northwest of the northeast of Section 11-7-6, added the only new light to the area that offers anything definite, by extending the area that far south with 680 barrels initial from four feet of Wilcox sand topped at 4184 feet.

Interesting development south of Little River pool, in the area skirting the Allen field extension work on the north, is looming in several wildcats reaching low depths. I. T. I. O. Company's wildcat in the southeast corner of the southwest of Section 16-8-5, was rigging standard tools to complete the hole at the opening of this week. This company's wildcat test in Section 32-7-7, between Allen field and Little River, was well below 4600 feet after finding the Viola lime at 4555 feet, showing it low at this point. Mid-Continent Petroleum Corporation's wildcat in Section 7-5-8, in the vicinity of Louisiana Oil Refining Corporation's Reed 1, a recent extension well of importance, passed the 2000-foot mark, going deep, and is cited as being important in helping to determine the value of this area.

Seminole Storage

Storage completed in the Seminole area totaled 23,935,000 barrels at the close of December, with four 10,000-barrel tanks up, 207 55's and 162 80's. Crude stocks in this storage ran to 18,481,470 barrels, leaving a net room of 5,453,530 barrels. The average daily runs to storage in the area recently have been, roughly, 37,000 barrels, while pipe line runs late in December were averaging around 317,000 barrels, and the remainder being moved by tank car. The slump in the output of the area reflects that storage runs are going to be cut unless pipe line companies begin curtailing their runs. The total estimated future tank capacity at Seminole is 2,350,500 barrels, including 13 55's and 21 80's now building, located or on grades.

Activity Increasing

The extent of activity in Oklahoma shows an increase toward the close of the year, taking two weeks for comparison, while Kansas continues to show a slight increase in activity, as has been the case for several months. The increase in Kansas has been fairly steady over a long period as a result of work in the Oxford pool and in other sections where development is strong. Oklahoma, on the other hand, shows its increase mainly due to an increase of work in the territory around Allen field, Pontotoc County, and recent new work started along the east edge of Burbank and the other sections of western Osage County.

The following table outlines the ac-

	December 21						December 14					
	Lcn.	Rigs.	Drlg.	S. D.	Comp.	Total	Lcn.	Rigs.	Drlg.	S. D.	Comp.	Total
Ponca City District:	10	7	41	22	4	84	10	8	37	23	7	85
Osage District:												
Burbank	4	25	16	2	3	50	4	6	16	3	2	31
Outside	3	4	22	3	1	33	3	5	18	3	1	30
Other Districts:												
Enid	4	3	35	18	..	60	6	1	35	18	1	61
Cushing	7	9	34	7	1	58	9	9	32	5	1	65
Tulsa-Okmulgee	7	33	53	27	9	129	7	33	59	21	10	130
Shawnee-Seminole	19	36	188	17	17	277	16	27	202	16	11	272
Muskogee	..	4	45	25	8	82	..	9	38	26	9	82
Lawton-Duncan	2	7	56	15	6	86	2	9	51	19	3	84
Ardmore	5	7	71	17	12	112	2	13	74	17	6	112
Total Oklahoma	61	135	561	153	61	971	59	120	562	151	51	943
Kansas	26	52	107	69	19	273	26	52	107	69	12	266

tivity in the two states for the weeks ending December 14 and 21:

The outstanding feature of interest in the Mid-Continent, aside from Seminole's performance, is the recent turn in the Logan County situation, where Roxana Petroleum Corporation's Stephens 1, in the northwest corner of Section 29-19-4w, has considerably weakened the prospects for big production from this deep area of high gravity oil discovered in its McCully 1. The Stephens 1, second well to find the pay, filled 3600 feet with water after drilling to 6110 feet, and early this week was preparing to plug back to test probable pay around 6065 feet. In the face of the fact that the discovery well continued to make around 2200 barrels daily from 5985 feet, and also the probability of this particular hole being an off location, the performance of the Stephens 1 has to an extent put a damper on the surrounding territory for possibilities of amounting to expectations that resulted from the strength of the discovery well.

At the close of 1927, Seminole's five fields produced 352,950 barrels, which stood approximately 50,000 barrels higher than the average prediction made through the Mid-Continent three months ago. To this extent the flush of the area had the producer fooled. His estimate, at the time it was made, was a logical one with a performance of several months' consistent decline on which to base his theory, together with the trend of operations booked to bring new production. It was on the strength of old wells that his guess went wrong, not on the estimate of decline in new oil drilled in. Shooting in the Earlsboro and Bowlegs sector revealed that the strength of the old producers was better than the credit they had been given, while the output from newly added wells declined in initial to fit the estimate of the average prognosticator.

As 1927 closed, the decline in average production in the area was running around 2000 barrels daily, taking the performance of the last week in the year. Production from 1060 wells at the gauge December 21 totaled 352,950, representing a decline of 4873 barrels from the previous day's output. This yield gave the area a well average of 333 barrels, which shows a decline in the well average of 15 barrels within three days.

Seminole's future could better by far be figured now than three months ago, because there is material to work on which offers less loopholes. There are less than 150 operations in the area, counting rigs up and locations staked for future drilling. A gentleman's agreement binds operators not to develop acreage offsetting new outside discoveries and to hold present wildcat producers to a maximum daily yield of 100 barrels, or at that rate. With the general shooting period over, there are no ripe prospects for a phenomenal comeback in production, and the decline from natural weakness now has the earmarks of lasting.

The greatest feature of significance at Seminole last week is the large number of wells finding water in the Wilcox sand. With little new oil added to the area up to Saturday morning, and the greatest percentage of wells in the process of completion showing water, the market-breaking area was getting its hardest blow against possible future production.

Magnolia's Sullivan 3, in the southeast of the northwest of the northwest of Section 12-9-5, Earlsboro pool, topped the Wilcox December 30 at 4285 feet, and at five feet in filled with water. Continental Oil Company's Bruner 3, in the northwest of the southwest of the southwest of Section 2-9-5, was plugging back to 4257 feet for a test after getting 2500 feet of fluid in the hole from a total depth of 4259 feet.

At Little River, Amerada's Pottey 2, in the southwest of the northwest of the northeast of Section 35-8-6, got 500 feet of water in the hole December 30 after drilling two feet into Wilcox sand topped at 4298 feet. Carter Oil Company's Fish 2, in the southeast of the northwest of the southwest of Section 36-8-6, got 600 feet of water from Wilcox sand at 4220-37 feet.

At Bowlegs, Amerada's Bradley 1, in the southeast of the southwest of Section 9-8-6, got a hole full of water from Wilcox sand at 4303 feet, and was drilling December 30 at 4307 feet in brown lime.

At Seminole City pool, Magnolia's Stephens 1, in the southwest of the southeast of the northwest of Section 36-9-6, found the top of the Wilcox at 4175 feet, and Friday had found no oil as far in as 4215 feet.

Magnolia's Dickson 1, in the southwest corner of Section 31-8-7, was drilling at 3290 feet Friday, in shale with a hole full of fluid. About 400 feet of oil was reported coming from around the casing from sand found at 3270-75 feet.

Magnolia's Gosey 1, in the northwest of the northeast of the southeast of Section 1-7-6, had a hole full of water while drilling in lime at 4412 feet. The base of the Wilcox in this hole was at 4375 feet, and was unproductive.

Shallow Field Is Testing Ground for Production Methods

(Continued from page 33)

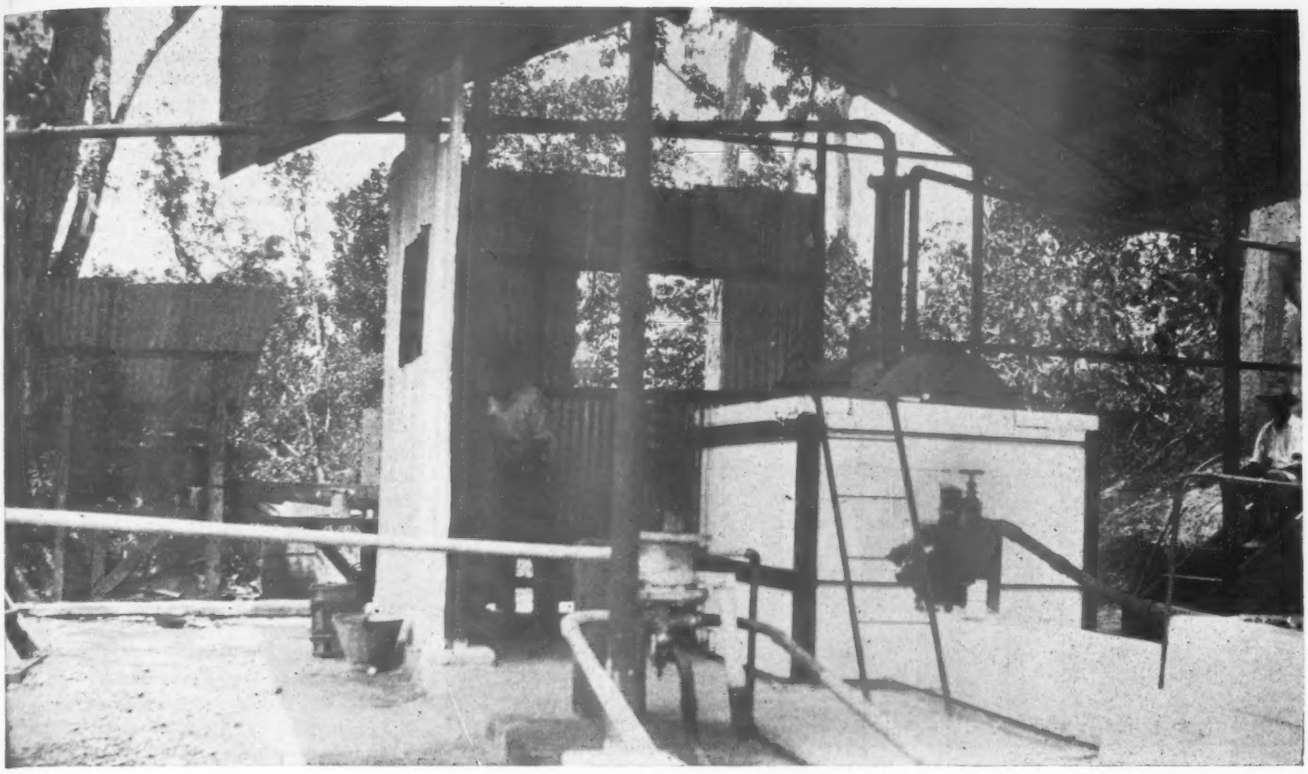
perimental farm might be likened to doing the daily milking job on a dairy farm . At certain times, either daily or as often as they want the wells to flow, the operators make their run of the wells, opening the valves and letting the wells flow until they hear free air shooting through the flow line, proving the fluid level has been lowered beyond the level of the line. Then the valve is closed, and the well is through until the next day, or the particular length of time it takes for the fluid to again rise to its required level with the aid of the air drive boosting it from the interior sands. The research has proved that the wells require different pressure, and so this is figured out according to the individual well, and the pressure flow is regulated by a valve at the point where the air line enters the swedge as the flow line is regulated above the casing head. This system has brought a remarkable increase in production on the lease, although the exact extent of increase has not yet been calculated.

Near each well on the farm is a flow tank of about four barrels capacity. In some cases each well has its individual tank, while in others there are two to four wells flowing into one tank. This oil is moved as the various flow tanks are filled to a booster station, and thence to storage, where it is sold to the National Refining Company.

Transportation System

Of all the unique systems in use on the farm, Marland's transportation system is outstanding in originality. The booster station, which is nothing more than the old-style hot water heater out of a neighbor's kitchen, plus a well-arranged air pressure system, is located at a low point on the lease in order that crude from the many flow tanks will tend to gravitate there. However, some of the flow tanks are also at low points, and it has been necessary to figure out a vacuum system at the booster station. Crude is moved from one flow tank at a time through a two-inch flow line running from the bottom of the tank and controlled at that point by a shut-off valve. The water heater has been buried half its length in the ground, and the flow line from the tanks, which connects with each of the individual tank lines enroute through the lease, enters the booster from the top. A glass tube taken from an old boiler and attached to the booster shows the transportation man when the booster is filled to the proper level. The system of air pressure used in the booster is identical with the air-lift system employed in the wells. When the booster is filled, the flow tank line is closed and the air valve opened. Strong air pressure then forces the crude from the booster into the line leading to storage. When this load has been moved to storage, the booster simply remains full of air under pressure. A valve is then opened at the top of the booster and the air lift method is thrown in reverse, creating a vacuum to refill the booster.

Individual well records are kept in detail by Mr. Noble, which, over a long period, are giving the company some valuable information on the results of their methods in use. While, as mentioned before, no accurate results on production have been definitely calculated, it is seen that the average well on the lease has been increased from practically nothing to around two barrels daily.



TRINIDAD OIL FIELDS' REFINERY INSTALLATION

Producer Operates Home-Made Refinery in Trinidad

By ROY E. LEIGH

A REFINING plant that amortized its cost within one week! Would not that make a refiner's mouth water, in these times of low-priced gasoline? But this is an article more for the producer of petroleum than for the refiner, as it explains how one producing oil company achieved a material reduction in the cost of operating its automotive equipment.

The Trinidad Oil Fields Operating Company, Ltd., has a small topping still located in the San Francique distirct of the Island of Trinidad, British West Indies, which cost less than one thousand dollars to build; and which actually returned its cost within seven days after it was placed in operation. It has a capacity of thirty barrels of crude oil per day, out of which more than 517 (U. S.) gallons of gasoline is recovered daily, to say nothing of around 378 gallons of a second-cut product consisting of kerosene and solar oil, which is saleable locally at a favorabe price.

Gasoline Worth 40c in Trinidad

When one considers that gasoline is worth 40 cents per (Imperial) gallon in Trinidad, it is not so difficult to realize that this small home-made plant yields a profit of approximately $160 per day.

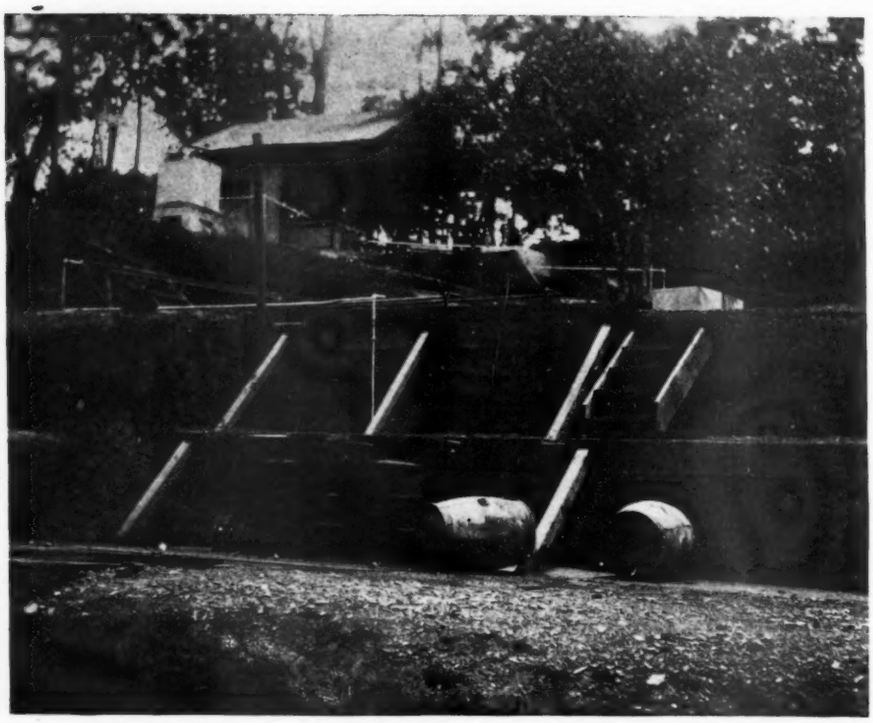
The plant is operating on a crude oil of 38° Be. gravity, and its yield averages approximately as follows:

Gasoline	41%
Kerosene-solar oil	30%
Residue (fuel oil)	28%
Loss	1%

Distillation tests on gasoline and kerosene produced from this unique installation yielded results as follows:

Refining experts who have studied these analyses suggest that the quality of each product could be improved by providing the still with a more efficient fractionating column; and the Trinidad company's engineers are now preparing a design for such an improvement. However, the motorist can detect no inferiority in the quality of the gasoline produced. It has a quick

	Gasoline	Kerosene
Specific Gravity at 60° F.	0.7539	0.8205
Flash Point (Abel Test)		95°F.
Color	Water-white	Standard white (Cloudy)
A. S. T. M. Distillation (100 c. c.)		
Initial Boiling Point	66.0° C.	144.0° C.
Final Boiling Point	220°.0 C.	292.0° C.
Distillate Boiling Point at 70 C.	0.5%	....
80	3.5	....
90	13.0	....
100	26.0	....
105	33.0	....
110	41.0	....
120	55.5	....
130	68.0	....
140	76.5	....
150	83.5	3.5%
160	89.0	16.5
170	93.0	30.0
180	95.0	43.0
190	96.0	53.0
200	97.0	62.5
210	98.0	71.0
220	98.5	77.0
230	...	82.5
240	...	87.5
250	...	90.5
260	...	93.5
270	...	95.5
280	...	97.0
290	...	98.0
290	...	98.5
Residue at F. B. P.	1.0	1.2
Distillation Loss	0.5	0.3



THE PLANT IS WITHIN 25 YARDS OF THE WELL AND TRUCKS DRIVE TO THE REFINERY FOR FUEL

"pick up" and does not seem to form an unusual amount of carbon.

$160.00 Per Day Profit

The still is capable of producing a very fair grade of kerosene if desired. It, however, is not so readily saleable as the kerosene-solar oil mixture now being produced, which is disposed of to a neighboring refinery at an advantageous price. The income derived from the sale of the second-cut product, plus the value of the residue which is burned by the company in its own operations, almost equals the cost of operating the plant, including the value of the crude used, leaving the gasoline production as roughly representing net profit. At prices current in the colony, this profit, which is in effect a saving, as all the gasoline produced is consumed by the company, averages around $160 per day.

Pay-Roll $10.53 Per Day

A remarkable feature of this refining plant is that it was built by a practical man and is operated by unskilled West Indian negro labor. It is run continuously by a crew of seven men, who earn an aggregate of only $10.53 per day. There are two still men, each of whom receives the munificent wage of a shilling an hour. Each still man has a helper, who earns six-pence per hour; and, in addition, there are three laborers who attend to the barreling operation who are paid at the rate of seven cents per hour. These latter men work only nine hours per day, a short working day for Trinidad!

The plant itself is not so unusual, as is the use to which it is put. One may venture to say that practically every large refining plant in the United States possesses one or more experimental stills not unlike the plant which is here used for a practical purpose.

Construction and Operation of Plant

The still is made of a steel cylinder having a diameter of three feet and a length of four feet and eleven inches. It formerly did service in a West Indian sugar central, and was purchased for its present use at a price of $50, representing junk value. The still is placed over a brick oven five feet seven inches long, four feet six inches high and five feet wide, in which is installed an oil burner which affords a primary heat ranging up to 165° C. At that point in the refining operation the gasoline cut is ended and steam is introduced as a superheating element in distilling over the kerosene-solar oil cut, which is usually ended at a temperature of 208° C.

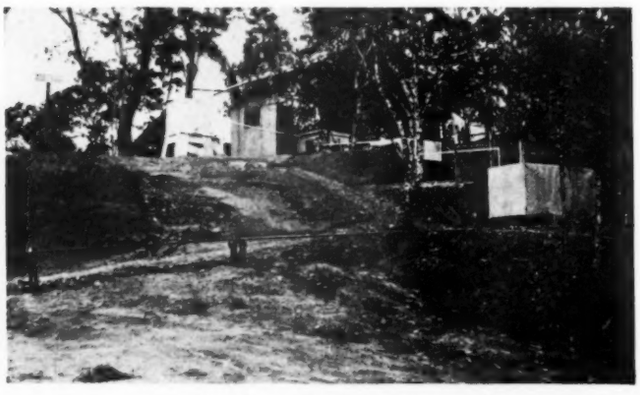
Being situated near a boiler plant used in routine production operations, the refining plant includes no investment in boilers, as surplus steam is borrowed from the nearby plant. This accounts in a measure for the small amount of capital required to build the plant, and, likewise, for the low cost of operating it.

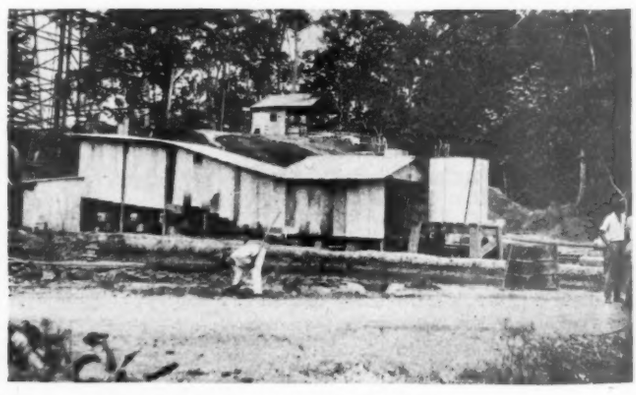
Galvanized ir oncistrens having a capacity of 400 gallons each are used as run-down tanks; and the condensing coils, which are made of two-inch pipe, are placed in a similar tank. A 65-barrel Parkersburg steel tank is used as a crude tank. It is fitted with a graduated gauge-glass for use in regulating the charge to the still. The capacity of the tank having been calibrated in inches, it is a simple matter to measure the charges of 175 (Imperial) gallons per batch.

The charging line and residue line are of two-inch pipe. A four-foot nipple of six-inch casing, filled with iron turnings from a lathe, does duty for the present as a fractionating column; and a joint of six-inch pipe serves as a smokestack.

The still's safety-valve, which of necessity is one of the most important features of such a plant, is made of a 1½-inch tee, in the top end of which is screwed a 1½-inch plug with a hole in the center, through which protrudes a ¾-inch valve stem weighted with four pounds of metal. Thus, when the pressure within the still exceeds four pounds, the valve lifts and permits it to escape safely.

The oil-burner, also home-made, is likewise worthy of attention. Starting with the steam line, which is made of ¾-inch pipe, we find it fitted with a tee of the same size, into which are screwed two short nipples of ¾-inch pipe, forming the shell of the burner.





TWO VIEWS OF THE PLANT, SHOWING PRIMITIVE CONSTRUCTION OF THE TROPICS

The inlet end of the shell is made of a ¾-inch by two-inch nipple and a ¾-inch by ¼-inch reducer, into which is fitted a short length of ¼-inch pipe, forming the spindle of the burner. The end of the spindle is beaten down to an opening of 1-32-inch in diameter, through which the fuel is discharged. The steam passes through the ¾-inch shell, and the fuel through the ¼-inch spindle.

The "look-box" is made of a nine-inch nipple of eight-inch pipe, with flanges on each end. A ¼-inch plate forms the bottom of the box, and a pane of glass the top. From it extend three pipes to the run-down tanks, one for gasoline, one for the kerosene-solar oil mixture, and another for the "slops" or distillate.

A further ingenious use of pipe, the oil producer's staple commodity, is made in the construction of the shed, which affords the only shelter required in the tropical cilmate. The corner posts and uprights are made of three inch pipe, and the rafters are of two-inch pipe. The roof is made of corrugated iron, so the entire structure is fireproof.

Cheap Insulation

Northern visitors are impressed by the local use of mud and grass for the insulation of steam lines. A very tough native grass is puddled with mud or clay, the purpose of the grass being to serve as a binder to prevent the clay from peeling off when dry. The mixture is applied as a coating about one or one and one-half inches thick, ropes of it being twisted around and around the steam pipes, where it quickly dries and forms a lasting insulation, having a texture not unlike the adobe bricks of West Texas. It costs about one cent per foot to apply, and is practically as good as asbestos.

Canadian Provinces Have Active Campaign

Calgary, Canada—A recent report issued by the Canadian Pacific Railway states that, in the last 18 months, 76 tests for oil have been drilled at various points in the prairie provinces of the domain. This would indicate that these provinces are undergoing extensive exploration for oil and gas.

Cold weather and snowbound highways have combined to delay drilling operations in the fields; in many sections the old-time sleds and teams are taking the place of trucks for the hauling of material and equipment, for moving in rigs, and for doing other oil field work.

Operations in the Turner Valley district, of course, are the most important and the Imperial Oil Company, Ltd., is the most active unit in the development of the field. An announcement of the Imperial and its subsidiaries' development program for 1928 indicates that they will have at least 15 drilling outfits in operation by early summer in Turner Valley. Ten new rotary outfits are ordered and the geological work for the 1928 campaign is practically completed.

Independent interests plan the laying of a second oil pipe line to connect the Turner Valley field with Calgary. Such a line will cost approximately $150,000; it is said that the Regal Oil & Refining Company of Calgary is behind the project. All of the right-of-way is secured and some of the preliminary work is completed. There is a report to the effect that Alberta Pipe Line Company, Ltd., will lay another gas line.

During the last year the Imperial has made a number of permanent improvements. It purchased the string of lots north of the Canadian Pacific Railway tracks, west of the road to Turner Valley, and in the west end of Okotoks. Here it has erected a warehouse, put in a side-track, tool platform, and installed a stiff-leg crane and pipe skids.

At Turner Valley the company erected a structural steel warehouse, 90 by 120 feet, with a traveling crane. It also completed a large structural steel garage with 24 stalls for tractors and trucks with repair pits and automotive machinery for repair work. During the year the Imperial purchased three new Ideal rotaries and now have seven rotary rigs operating in the field, besides six strings of cable tools which have been moved in from wildcat operations. It is reported that the drilling program for 1828 in Turner Valley contemplates the drilling of at least 60,000 feet of hole. Company is building a structural steel bridge across Sheep River south of the Royalite camp at a cost of $25,000. The bridge will connect the north and south ends of the fields.

Salt Water in Logan County Test

Tulsa.—Developing 2500 feet of salt water from five feet of sand topped at 6102 feet, Friday of last week, Roxana Petroleum Corporation's Stephens 1, in the southwest corner of Section 29-19n-4w, Logan County, one-quarter of a mile southeast of the deep producer of Roxana, offers the first definite weakness to this particular area that has held the attention of Mid-Continent producers as the deepest production in the territory since discovery last June. The formation is reported as sandy lime. Topping the pay in sandy lime at 5965 feet, Stephens 1 had been producing approximately 50 barrels of oil daily on an average for a week while drilling was in progress. It is being deepened to what is figured as lower pay.

McCully 1, discovery well, was flowing slightly more than 2100 barrels pipe line fluid at the close of the week, with tools still in the hole, depth 5985 feet, at its location in the southwest of the northwest of the southeast of Section 30. Top of the producing sand in this well is given as 5968 feet.

Two of the development tests of Roxana were standardizing December 30. Ross 1, in the northwest corner of Section 29, was changing to cable tools at a total depth of 5833 feet, and Williams 1, a direct south offset to Stephens 1, Williams 1 being in the northwest corner of Section 32, had reached 5935 feet, and was standardizing. Sebronek 1 of Roxana, located in the southeast of the northeast of Section 30, a quarter east and two locations north of McCully 1, was in lime at 5221 feet. Freelove 1, in the southeast of the southwest of Section 17, was at 5276 feet, while McCully 2, the latest location offsetting the discovery well, was a rig.

Rainbow Bend

Tulsa.—Decision that new pay sand found early in December on the north edge of Rainbow Bend field, Southern Kansas, by Barnsdall Oil Company in its Thurlow 1, is the Wilcox sand, throws a new light of interest on this producing spot. Two factors loom, however, to prevent rush drilling in the area: Barnsdall controls the bulk of acreage around the strike to the point where competitive drilling is fairly eliminated, and the well has been a disappointment in its performance.

Thurlow 1, located in the southeast of the northeast of Section 7-33-3, had an initial yield of 400 barrels from the 3500-foot horizon. On December 28 it made 150 barrels of oil with lots of water.

Two offsets started by Barnsdall as a result of the deep strike are expected to reach completion depths some time in January.

Rainbow Bend field, lying on the structure running from South Kansas into Northwestern Oklahoma, where Stalnaker sand has produced very profitably for some time, is now producing slightly more than 2100 barrels daily.

Tulsa Rig Reel Opening Yards in West Texas

Tulsa, Okla.—Tulsa Rig Reel and Manufacturing Company of Tulsa announces the opening of new yards in West Texas to better serve the trade in that territory. This marks the first entrance of the company into Texas, a subsidiary company, however, the American Steel Products Company, has been doing business in Texas for some time on its line of derricks and other production equipment. The American Steel Products Company has an office in Fort Worth.

The yards now being established in West Texas by the Tulsa Rig Reel and Manufacturing Company are at Pyote and at Rankin, with M. W. Merrill in charge at Rankin and R. H. Field at Pyote. Ken Flint, district manager, is located at Midland.

Tulsa, Okla.—The Oklahoma Iron Works has declared the regular quarterly dividend on its common stock of 1½ per cent, payable January 15, to stockholders of record January 1.

Personal Mention of Men You Know

Paul H. Rhode, assistant secretary-treasurer of the Standard Oil Company of Kansas and a director of the company, died at his home in Neodesha, Kansas, December 30, after a long period of illness with cancer. He is survived by his wife and two sons.

S. D. Butcher, geologist for Marland Oil Company of Oklahoma, has been placed in charge of the company's Shawnee office, which includes work throughout the Seminole district.

Walter C. Carroll, a director of the Oil Well Supply Company, has recently been made chairman of the executive committee, succeeding H. C. Burns. The assets of the Oil Well Supply Company of California were transferred to the Oil Well Supply Company of Pennsylvania, the parent concern, effective January 1, 1928.

George Nicholson, chief scout for the Empire Oil & Refining Company in the Texas Panhandle territory, spent Christmas in Tulsa.

C. C. Hildebrand, chief scout for Phillips Petroleum Company in the Panhandle region, headquarters at Amarillo, Texas, was a visitor in Tulsa during the Christmas holidays.

C. O. Jensen, formerly with the Kaw Steel Construction Company, has gone with the Drane Tank Company of Tulsa, and will have charge of the portable steel building department. Drane Tank Company is the distributor in this district for Butler Manufacturing Company.

F. O. McCain, geologist, of Topeka, Kansas was in Tulsa on business last week. He is making preparations to drill a wildcat test near St. Joseph, Buchanan County, Missouri.

O. W. Noel, one-time scout for the Mid-Continent Petroleum Corporation and now district field representative for that concern in the Duncan, Oklahoma, territory, spent several days in Tulsa during the Christmas holidays.

F. M. Rosenkrans, business manager for the Gas Service Company, Kansas City, is the district chairman of the industrial section of the American Gas Association, having charge of District Seven, comprising Missouri, Oklahoma, Texas and Louisiana.

R. R. Penn, independent operator and well known wildcatter in the North and Central Texas country, was a visitor in Tulsa the last week in 1927.

Howard T. Flint, scout for Roxana Petroleum Corporation in the Brenham district of the Texas Gulf Coast, is in the Baptist Hospital, Houston, having pneumonia and also an infection in one hand.

E. H. Patterson, chief scout of the Roxana Petroleum Corporation at Houston, was visiting last week in Beaumont and Lake Charles, Louisiana.

Reed Roller Bit Company Holds Sales Conference

Houston.—Salesmen and department heads of the Reed Roller Bit Company concluded last week the annual sales conference of the company at Houston. Representatives of the company from all over the United States were present.

A record-breaking year in the sales of Reed Roller Bit Company products was reported by the officials of the company. The conference was followed by a dinner dance at the Warwick, which was attended by employees, their wives, and a number of other guests.

Those attending the sales conference were: S. P. Farish, president; W. L. Childs, vice-president and general manager; H. C. Howard, director of sales and publicity; O. Duda, chief engineer; G. G. Harrington, field engineer; Chas. H. Shapiro, chief metallurgist; Edgar H. Wilson, foreign representative; Lock McDaniel, Jr., branch manager, Los Angeles office; Frank C. Gignoux, engineer, Los Angeles branch; W. E. Gorham, salesman, Houston; John Butler, salesman, Corsicana; R. H. Giesey, salesman, San Antonio; S. E. Manning, salesman, Wichita Falls; Reed O'Neil, salesman, West Texas; Harold Peeler, salesman, Shreveport; Paul Chew, office manager, Houston.

J. M. Vetter, chief land man for the Rio Bravo Oil Company, spent the Christmas holidays at his home in Iowa.

Houston Gulf Gas Buys in Southwest Texas

Houston—For the sum of $934,000 the Houston Gulf Gas Company recently purchased the producing gas properties of William F. Morgan, Inc., in the Mirando and Refugio fields, as well as considerable wildcat acreage in San Patricio County. The holdings in the Mirando field included 35,000 acres of leases and 20 producing gas wells, and were transferred in the deal for $300,000. The remaining $634,000 was the purchase price of 9,000 acres of leases and 16 producing wells in the Refugio field, and 51,000 acres of wildcat acreage in one block in the gas region of San Patricio County. Some of the property in the Refugio field had been held in the name of the Coast Gas Company, all of the stock of which was owned by William F. Morgan, Inc. A small amount of acreage in Medina County was also included in the transaction.

Transcontinental Surveys Line to Texas City

Fort Worth, Texas—The United Producers Pipe Line Company, subsidiary of the Transcontinental Oil Company, has placed two surveying parties at work during the past week in making a detailed check on a tentative pipe line route selected some months ago from the Yates field, Pecos County, to Texas City. One party is working southeastward from the field, while the other party will start from the Texas City end of the proposed line. United Producers proposes to lay a 10-inch welded line from the Yates field to the Gulf Coast shipping point, but no date has been set for the starting of actual construction.

Officials and employes of the Reed Roller Bit Company and their guests at the dinner dance given by the company following a conference of members of the sales department held at Houston.

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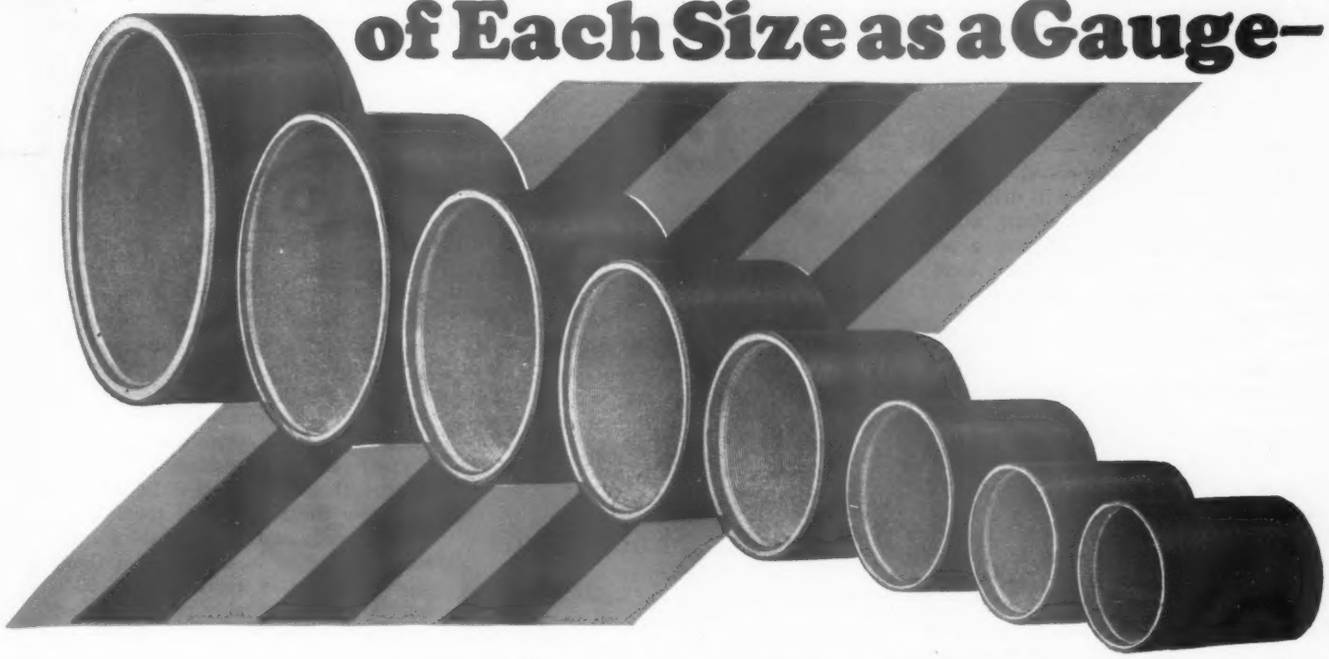

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Mountain States Field Development Notes

Starting Two Deep Tests In Wyoming

Rock Springs, Wyo. — Montacal Oil Company and the Associated Oil Company, both of California, will drill a deep test in the South Baxter Basin area to test the Sundance sand. Almost a score of wells have been drilled in this locality in years past; heavy gas pressure was encountered in the Frontier and Dakota series. A third company which has not been named, it is reported, will join the Associated and Montacal in the operation.

Custer Petroleum Company has started its deep test on Hiawatha Dome on the Wyoming side of the Wyoming-Colorado State line. The drilling is in charge of Lou Hunnicutt, contractor for Ohio operations at Hiawatha, who is employing the same drilling crew as did the work on the Kuykendall well for Ohio Oil Company on the Colorado side of the line. Location for this test is on the Wiff Wilson permit in Sweetwater County, Wyoming, 24-12-100. Custer Petroleum Company is financed largely by Ohio capital and is closely affiliated with the Ohio Oil Company.

Scoville interests of Ogden, Utah, have set 20-inch casing at 370 feet in their test on South Baxter Basin structure. Drilling progress has been slow on account of frozen water pipes having made it necessary to haul water from springs several miles distant.

New Company Active in Oregon Basin Field

Cody, Wyo.—A new company in the Oregon Basin field is the Ostland Development Corporation which has been incorporated by Fred G. Ostland of Billings, Mont., to take over the holdings of Fred G. Ostland, Inc., in the new field and in adjacent territory. Holdings in the field amount to about 2080 acres, and the entire control of the Half Moon structure.

Despite cold weather and storms in recent weeks, drilling continues active in the field inasmuch as there is an abundance of gas for fuel and all drilling is done by electricity. A shortage of water has been one drawback which has been overcome by the construction of reservoirs, and by drilling surface wells.

Casper Interests to Drill In Gray River District

Kemmerer, Wyo.—Several Casper men, associated with important oil interests in Wyoming and Colorado, have recently closed contract for deeded land and government permits on some 100,000 acres in the Gray River district, north of the La Barge field, in the Star Valley area, and across the line in Eastern Idaho. In this acreage there are a number of well-defined structures, and negotiations have been made for the drilling of at least one test early in the spring. Announcement of company names and the structures to be drilled will be made, it is said, at an early date.

Official gauge of the producing wells in the LaBarge field is still being conducted by Midwest Refining Company, Utah Oil Refining Company and the California Petroleum Corporation. While no official information has been given out concerning the same, it is understood that the daily average will be around 2500 barrels. This will be sufficient to insure the laying of a four-inch line from the field to railhead at Opal, the work to be started early in the spring. Practically all field storage is filled, and there is 100,000 barrels in storage at LaBarge.

Montana Shut Downs

Great Falls, Mont.—Continued bad weather in the Montana fields has caused the shutdown of nearly all work under way. Although the roads are passable, it has been so cold that water pipes could not be kept open, or water hauled. Among the several tests under way in the field only three were reported still at work despite the storms. They were the California Petroleum Corporation, the Majestic Oil Company and the Co-operative Petroleum Company. Interest in Bannatyne area is still manifest. Guy Craig, with his partners, Speer & McCutcheon, has announced his intention of drilling three wells as soon as weather conditions will permit. Location is in southeast of section 5-25-1e, one-quarter mile northeast of the discovery wells.

Southeast of Bannatyne, on Last Chance structure, J. W. Elliott has a new and larger outfit rigged up to complete the work which was started with a small validating machine. If the weather moderates sufficiently, drilling will be resumed immediately.

New York Oil Properties Sold

Casper, Wyo.—According to a persistent rumor, sale of the New York Oil Company properties has been made to interests identified with the Midwest Refining Company. It is reported that the Salt Creek Producers Association and the Mountain Producers Corporation have purchased the New York holdings in the Salt Creek field, and that the gas properties of the company will be taken over by Chicago Public Utilities Corporation. The black oil properties are to be taken over by the Empire State Oil Company. Official announcement of the trade has not yet been made public, but it is expected that it will be within the next few days. Officials of the New York Oil Company, Empire State Oil Company, the Midwest Refining Company, and affiliated companies are now in Chicago where the details of the trade are being worked out, and contract for the sale of properties drawn.

Court Decree Closes All Mammoth Operations

Casper, Wyo.—Under a decree by Judge T. Blake Kennedy of the United States Federal Court, District of Wyoming, all operations heretofore conducted by the receivers for the Mammoth Oil Company on Teapot Dome will close down at midnight December 31. This includes 62 pumping wells and 12 gas wells. It means the withdrawing from the market of 1000 barrels of crude petroleum daily and approximately 10,000,000 cubic feet of gas per day. This gas was handled by the New York Oil Company through a compressor plant, the residuum gas being delivered through the pipe line at Teapot Dome to the refinery of the Continental Oil Company at Glenrock and for domestic consumption in the town of Glenrock. The pipe line is approximately 30 miles long and will probably remain idle. New York Oil Company will immediately arrange to supply the refinery and the town of Glenrock with gas from its other fields in Central Wyoming.

The shutting down of all operations on Teapot Dome will probably result in the throwing out of employment of approximately 30 field men and a number of office employes of the Mammoth Oil Company residing in Casper. Under the decree all equipment and material on the Naval reservation will revert to the government, which means that the Mammoth Oil Company will be the loser by several million dollars in this movable property. A watchman will probably be appointed to see that none of the property is removed or any of the wells molested. About half of the gas wells have already been muddied and shut in, but only a few of the oil wells have been shut in prior to Saturday night.

It is understood that the receiver for the government, Captain H. A. Stuart, was opposed to the shut-in of the field, immediately, while A. H. Watts, representing the Sinclair interests, asked for an immediate closing of all operations on the Naval Reserve.

Teapot Shut Down to Hold Oil for Navy

Washington, D. C.—Wells in the Teapot Dome Naval Oil Reserve, returned officially to the Navy Department December 28 when Federal Judge Sinclair at Cheyenne, Wyo., signed the decree from the United States Supreme Court, will be closed in, in conformity with the conservation program of the department, it has been learned.

In his annual report, submitted to President Coolidge December 11, Secretary of the Navy Curtis D. Wilbur, in outlining the oil activities of his department, explained that the Naval Oil Reserve Commission appointed by

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Say you saw it in The OIL WEEKLY

the President in 1924 to study upon problems and policies connected with the production, conservation and future operation of the naval petroleum reserves, had recommended the closing in of the wells in the reserves. Those in Reserve No. 1 have been shut down since April, 1927, and will be kept shut down indefinitely in order to conserve as much oil as possible in underground storage for as long a time as possible and until it can no longer be readily obtained elsewhere.

A similar program will be followed with respect to the wells in the Teapot Dome reserve. The policy of the department contemplates also the making of arrangements whereby offsetting line wells of adjoining operators are to be shut down, or agreements entered into whereby the adjoining operator agrees to pay the government an additional royalty on any increased production due to the shutting down of the navy wells.

Important Developments In New Mexico

Albuquerque, N. M. — Important developments over a wide territory in New Mexico are noted for the week past. Most important is the Getty well in 25-20s-29e, and that of the Texas Production Company Robinson 2, 25-16s-31e, both in Eddy County on the Lea County line. The Getty well swabbed on test 234 barrels for the first 24-hour period, 146 barrels for the second, and 141 barrels for the third. It averaged 26 barrels per day on a three-day natural flow. The Texas Company's well is good for 300 to 500 barrels. Considerable interest in the district has been manifest since the completion of these two wells.

McQuigg Brothers of Los Angeles, penetrated a gas sand in 7-5s-29e in Chaves County at 1525 feet. Inasmuch as this is in wildcat territory it is considered of importance by the operators.

Converse County, Wyo.

Casper, Wyo.—Nothing definite will be known for a time concerning the value of the oil showing by the Criterion Oil Company's test on Irvine structure, eight miles southeast of Douglas, in Converse County, northwest 5-31-70. This test is reported to have had a good showing of oil in the Sundance sand at 3581 feet. As the hole is nearly full of water, there is no way of of testing the sand unless casing is run or a core taken of the formation. As it is less expensive to take a core of the sand, this is being done and if it shows saturation a string of three-inch casing will be set and the well drilled in.

L. L. Aiken, president of the Midwest Oil Company, left Denver recently for New York City whence he will sail for Europe. During his absence from the United States he will make one of his regular visits to a famous clinic in Paris where he is a patient receiving periodic treatment for an illness which threatened to become chronic.

Two Flowing Wells Added in Champagnolle District During Week

SHREVEPORT, LA. — Developments in the Champagnolle section of Union Parish, Arkansas, were considerably improved during the holiday week, when the Ohio Oil Company successfully completed its Crain 5, in Section 1-17-14, as a 500 barrel flowing well. The same company's Rick Pumphrey 1, in Section 2-17-14, brought in on December 16 as a large gas well, also started making oil at the rate of about 250 barrels a day during the week, together with a large quantity of gasoline which is being recovered from drips in the flow line.

The completion of the Ohio wells is the first successful developments in this field since the E. M. Jones Crain 1 was brought in, several weeks ago; in fact, since the Magnolia's Carroll 1 was brought in about three months ago. The Ohio Oil Company's Crain 5 was brought in from 3056 feet, and flowed 220 barrels of pipe line oil during the first 14 hours. During the next 24 hours, it seemingly settled down to a flow of about 500 barrels daily, continuing at this rate until December 27, at which time it went dead. Arrangements are now under way to construct a standard rig. The Magnolia Petroleum Company's Carroll 1, completed about three months ago, is still flowing about 260 barrels of oil daily. The Ohio's Pumphrey 1, completed on December 16 as a 25 million foot gas well, is now spraying oil at the rate of 250 barrels a day, accompanied by about 15 million feet of gas.

The E. M. Jones Crain 1, located in Section 2-17-14, completed several weeks ago as a large flowing well, has ceased to flow, and arrangements are now being made to install pumping equipment. Crain 3 has been drilled to 3075 feet, where 6⅝-inch casing has been set above three feet of sand, cored at 3073 feet. The Ohio Oil Company is preparing to make a test of four feet of sand in the Crain 6, Section 1-17-14, found at 3030 feet. Ohio's Goode 2, Section 2-17-14, is coring in shale at 3048 feet. The consensus of opinion is that all of the wells drilled in this section to date are edge wells; and that drilling in nearby territory will develop more prolific wells. The area lying to the south, in which the Pure Oil Company has an extensive block of acreage, is as yet unexplored, and it is possible that this territory will be found productive.

Aside from the activity in the Union County area, very little of interest was reported in this territory during the past week. In Ouachita County, the Magnolia Petroleum Company has abandoned its Stout Lumber Company 1, in Section 28-14-16, at 3418 feet, after failing to develop production at a lesser depth. McDonald et al are coring in hard, sandy shale, at 2278 feet, in their Pell wildcat, located in Section 9-15-22, Nevada County. This hole was recently tested at 2000 feet, at which time it showed favorably for a producer. The Palmer Corporation has decided to drill deeper in its White 1 wildcat, situated in Section 2-19-10e, West Carroll Parish, Louisiana, after its failure to produce when tested at 2474 feet; and drilling is now in progress at 2503 feet. The Lion Oil & Refining Company's well, in Section 17-17-13, Union County, which attracted so much interest several weeks ago, cored salt water sand at 2846 feet, and is now reaming at 2865 feet. Pat White and associates, of Monroe, La., have blocked approximately 4000 acres of land situated near the Richland Parish gas area, and plan to drill a test to 3000 feet, within the immediate future. Location of the first test will be made about five miles from the nearest present production in the Richland Parish field.

Activity in the proven fields of the two states during the week was of minor importance, considering that no wells of more than ordinary initial production were completed. The Magnolia Petroleum Company succeeded in bringing in one of the largest gassers yet to be completed in the Carterville district, of Bossier Parish, when the Robinson 1, in Section 26-23-12, was brought in from 3060 feet, flowing more than 35,000,000 feet of gas daily. Moody and Seagraves are preparing to drill in their Osborne 1 wildcat, in Section 14-15-5e, Richland Parish, at 2295 feet. This test is one and one-half miles south of Oliver and Hatch's Hatch 1, in Section 2-15-5e, which blew in and cratered several months ago, and which could not be brought back to production. Should the Moody and Seagraves Osborne well be completed as a producer, it will extend the producing horizon of the Richland pool more than a mile toward the south.

Tax Decision

Washington, D. C.—Errors in the taking of inventories, through the inclusion of defective material, may later be corrected, it has been held by the United States Board of Tax Appeals. The decision, it is stated here, is of importance to concerns in the oil-well machinery industry, as well as to others using metals and other materials in which defects may occur.

Passing upon a case involving this point, the board ruled that where an inventory was originally taken at cost or market, whichever was lower, and it was discovered early in the succeeding year that it contained on the inventory date a large quantity of defective material, it may be corrected to accord with the actual fact when preparing income tax returns.

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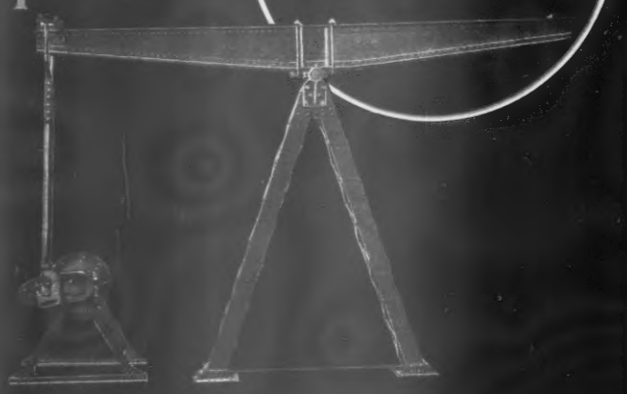

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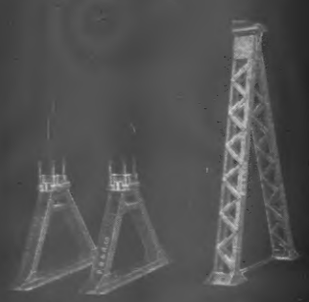

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West Texas Production

CRANE COUNTY

	Producing Wells	Daily Average Prod.
Church & Fields—		
Simms Oil Co. & Atlantic Oil Prod. Co.	30	20,785
Prairie Oil & Gas Company	11	13,870
Landreth Production Corporation	16	11,325
Tidal Oil Co. & Turman-Maxwell	24	*8,370
Humble Oil & Refining Co.	13	5,750
Eastland Oil Co. & Collett-O'Keefe	8	5,425
Magnolia Petroleum Co.	31	4,940
Pecos Oil Company	13	4,740
Independent Oil & Gas Company	6	2,130
Gulf Production Company	10	1,585
Geo. Church-Fields & Bert Weekly	3	1,405
The Texas Company	2	245
Geo. Church & Bob Fields	2	190
Stidham & Thrasher	1	10
Totals	170	80,770
Gulf-McElroy—		
Gulf Production Company	55	17,955
Gulf-Waddell—		
Gulf Production Company	1	15
Marland-Hughes—		
Marland Oil Company	16	615
The Texas Company	9	165
McMan Oil & Gas Company	2	70
Independent Oil & Gas Company	1	5
Totals	28	855
Totals for Crane County	254	99,595

UPTON COUNTY

Texas & Pacific Coal & Oil Co.	17	2,535
Roxana Petroleum Corp.	36	2,010
Marland Oil Company	70	1,965
Dixie Oil Company	36	1,940
Gulf Production Company	15	1,605
Champlin Refining Company	3	1,475
The Texas Company	21	1,460
Prairie Oil & Gas Company	8	1,215
Humble Oil & Refining Co.	10	925
Independent Oil & Gas Co.	26	720
Amerada Petroleum Corp.	6	285
Orient Oil Operating Co.	1	250
Snowden & McSweeney	1	195
Sun Oil Company	10	195
Wentz Oil Corporation	3	115
Republic Prod. Co. & Marland Oil Co.	5	105
The Texas Company (was Pure)	1	90
Tidal Oil Company	3	90
Atlantic Oil Producing Co.	1	40
Simms Oil Company	3	40
Bryant & Atlantic Oil Prod. Co.	2	35
McMan Oil & Gas Company	2	20
Texon Oil & Land Company	1	15
Totals	281	17,325

REAGAN COUNTY

Big Lake Oil Company	123	16,545
Texon Oil & Land Company	80	6,825
Totals	203	23,370

PECOS COUNTY

Mid-Kansas-Transcontinental	37	*19,390
The California Company	12	*8,065
Gulf Production Company	6	*4,610
Gulf Prod. Co. (Crockett County)	3	*2,030
McMan O&G Co. & Marland Oil Co.	13	*4,855
Humble Oil & Refining Company	7	*2,560
Simms Oil Company	3	*2,545
Marland Oil Company	10	*1,785
Roxana Petroleum Corporation	6	*1,010
Crude Oil Co. (was Allsman-Bell)	3	*350
Red Bank Oil Company	2	*295
Mazda Oil Corp. & Savoy Oil Co.	1	*145
Kirby Pet. Co. & Edson Pet. Co.	1	*135
Totals	104	47,775

WINKLER COUNTY

Landreth Prod. Corp. & Roxana	4	9,110
Southern Crude & R. A. Westbrook	3	7,480
Atlantic Oil Producing Co.	3	6,340
Cranfill-Reynolds	2	*5,610
Humble Oil & Refining Company	3	*5,485
Southern Crude & Dixie Oil Co.	6	*4,720
Gulf Production Company	6	*3,855
Republic Production Company	1	3,455
Roxana Petroleum Corp.	2	*3,255
Magnolia Petroleum Company	2	*2,965
Texon Oil & Land Company	1	*1,435
Murchison-Cranfill Bros. Oil Co.	4	1,005
Independent Oil & Gas Company	3	*610
The Texon Company (was Pure Oil Co.)	1	*435
Joe Maxwell & L. C. Turman	1	*...
Llano Oil Co. & Roxana Pet. Corp.	1	20
Totals	43	55,780

HOWARD COUNTY

Magnolia Petroleum Company	42	4,335
Marland Oil Company	35	1,005
Pure Oil Company	4	310
Lockhart & Co. et al	7	140
Bristow & Merrick	4	150
Sweeney & Henry et al	1	120
F-H-E Oil Company	2	95
Godley Oil & Gas Company	1	85
Frank M. Greene Corp.	2	65
Mid-West Exploration Co.	2	60
Vitek Oil Company	1	45
Tidal Oil Company	2	40
Humble Oil & Refining Co.	2	35
Comet Petroleum Company	2	25
Marland Oil Co. & Group One Oil Corp.	1	25
Owen-Sloan et al	1	20
L. C. Harrison et al	2	25
Gulf Production Company	2	5
Totals	113	6,585

JONES COUNTY

Phillips Petroleum Company	11	845
Marland Oil Company	3	365
Mid-West Exploration Co.	4	145
Stebbins Oil & Gasoline Co.	1	15
Totals	19	1,370

MITCHELL COUNTY

The California Company	97	2,440
Magnolia Petroleum Company	22	525
Atlantic Oil Producing Company	8	210
Eastland Oil Company et al	9	175
Tidal Oil Company	2	30
Fred Carey et al	1	20
Totals	139	3,400

CROCKETT COUNTY

Humble O. & R. Co. & Marland Oil Co.	13	675
Cushing Refining & Gasoline Co.	2	360
Gulf Production Company	6	340
E. L. Smith Oil Company	5	215
Pecos Oil Company	3	125
Taylor-Link Oil Co. & Kirby Pet. Co.	1	100
Republic Production Company	2	30
Roxana Petroleum Corp.	1	15
Totals	33	1,860

RUNNELS COUNTY

Vacuum Oil Co. & Hill-Ladd	1	85

LOVING COUNTY

Lockhart & Company et al	2	80

SCURRY COUNTY

The Northwest Company	5	50

ECTOR COUNTY

J. S. Cosden & The Texas Company	1	15
Totals for all fields	1198	257,290
Totals for previous week	1193	265,930

*Production partially pinched.

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1926	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
January	445,950	99,600	256,500	90,100	43,800	178,000	100,450	101,700	618,750	1,934,850	59,979,900
February	450,300	102,050	246,600	91,550	45,300	169,400	98,950	101,050	604,950	1,910,150	53,483,900
March	457,900	103,000	260,500	91,950	48,800	165,700	97,800	102,100	604,400	1,932,150	59,897,250
April	464,850	102,600	265,600	90,900	51,550	170,750	101,750	107,300	600,650	1,955,950	58,678,000
May	463,350	106,150	280,050	93,700	59,100	175,700	106,100	111,650	602,400	1,998,200	61,944,950
June	459,100	107,900	305,100	91,350	60,350	166,950	106,050	113,300	607,550	2,017,650	60,529,350
July	456,700	110,450	336,300	116,550	57,100	161,650	104,650	107,750	614,400	2,065,550	64,032,300
August	465,300	111,750	383,800	162,800	56,800	157,350	108,600	110,600	608,900	2,165,900	67,143,450
September	466,050	113,400	403,750	175,200	56,850	153,250	110,200	104,700	598,150	2,181,550	65,446,500
October	503,350	114,650	444,700	169,900	58,200	149,500	109,450	98,500	614,200	2,262,450	70,136,500
November	550,700	115,800	477,000	176,900	56,450	143,700	111,150	92,900	643,650	2,368,250	71,047,550
December	564,250	118,800	480,800	181,900	54,800	138,600	110,050	85,650	660,400	2,395,250	74,252,700
1927											
January	598,500	117,200	466,400	173,900	52,900	131,550	107,850	84,450	653,450	2,386,200	73,972,150
February	693,350	116,250	479,800	154,600	52,800	128,200	107,150	85,300	642,700	2,460,150	68,884,300
March	710,350	116,100	475,000	154,750	51,450	124,500	104,400	87,600	640,850	2,465,000	76,414,900
April	723,700	115,400	477,300	155,100	50,500	113,350	108,000	89,350	644,550	2,477,250	74,317,750
May	742,200	114,600	488,700	151,300	47,450	112,700	114,000	89,300	633,550	2,493,800	77,307,700
June	768,600	112,200	480,800	151,650	49,150	112,450	111,850	86,050	638,550	2,511,300	75,338,900
July	846,750	107,750	475,800	142,950	56,200	109,900	111,800	86,950	620,700	2,558,800	79,322,300
August	832,900	105,100	483,450	139,350	56,950	104,750	114,600	80,750	621,450	2,539,300	78,717,850
September	797,450	105,200	493,750	142,900	53,450	101,350	110,800	74,500	637,250	2,516,650	75,498,900
October	782,300	105,100	497,900	138,400	51,300	100,450	113,600	73,250	629,000	2,491,300	77,230,000
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December 3	766,000	106,300	507,300	135,850	48,000	96,650	113,750	79,550	626,400	2,480,750	17,365,250
December 10	736,200	106,050	546,500	141,150	47,650	96,100	112,000	74,450	627,400	2,487,500	17,412,500
December 17	720,300	105,050	532,450	141,700	47,200	95,200	111,000	79,950	624,100	2,456,950	17,198,650
December 24	705,750	105,550	533,400	136,200	47,000	94,350	110,500	78,050	621,300	2,432,200	17,025,400
December 31	701,250	107,850	524,650	135,500	46,600	93,350	110,500	75,250	624,800	2,419,750	16,938,250
Increase	.....	2,300	.....	.....	.....	.....	.....	.....	3,500	.....	.....
Decrease	4,500	.....	8,750	700	400	1,000	.....	2,800	.....	12,450	87,150

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	Dec. 31	Dec. 24
Hutchinson County	52,400	55,300
Gray County	18,800	19,300
Carson County	7,700	7,900
Wheeler County	1,300	1,350
Others	50	50
Totals	80,250	83,900

NORTH TEXAS

Burkburnett	11,950	11,800
Electra	11,650	11,700
Iowa Park-K-M-A	1,900	1,900
Wilbarger	11,000	11,100
Archer County	22,750	22,900
Clay County (Petrolia)	600	600
Baylor County	100	100
Montague and Cooke Co.'s	15,050	15,250
Totals	75,000	75,350

WEST CENTRAL TEXAS

Stephens County	8,000	8,050
Eastland-Desdemona	9,300	9,150
Brown County	17,000	17,250
Coleman County	1,000	1,000
Callahan County	4,300	4,250
Shackelford County	4,950	5,000
Young County	10,150	10,300
Throckmorton County	1,000	1,050
Jack County	1,050	1,250
Palo Pinto County	450	450
Others	400	400
Totals	57,600	58,150

WEST TEXAS

Jones County	1,350	1,400
Mitchell-Scurry Cos.	3,400	3,300
Howard County	6,650	5,800
Reagan County	22,800	22,700
Crane-Upton Counties	111,400	119,000
Crockett County	4,250	3,400
Pecos County	48,350	44,300
Winkler County	60,000	62,000
Others	2,400	2,550
Totals	260,600	264,450

EAST CENTRAL TEXAS

Mexia	8,350	8,400
Currie	600	600
Richland	700	700
Wortham	2,250	2,250
Corsicana-Powell	13,000	13,050
Nigger Creek	1,900	1,950
Totals	26,800	26,950

SOUTHWEST TEXAS

Luling	13,850	14,000
Lytton Springs	1,600	1,600
Somerset	800	800
Laredo District	7,350	7,450
Dale	400	400
Others	400	400
Totals	24,400	24,650
Total Texas (Outside Gulf Coast	524,650	533,400

TEXAS GULF COAST

West Columbia	8,500	8,900
Damon Mound	800	900
Big Creek	2,150	2,150
Boling	2,100	2,250
Blue Ridge	3,900	3,800
Pierce Junction	11,800	12,000
Humble	1,900	1,950
Goose Creek	7,400	7,500
South Liberty	2,300	2,000
Hull	12,450	12,400
Saratoga	1,000	1,000
Batson	1,300	1,300
Sour Lake	3,900	3,850
Spindle Top	53,400	53,500
Orange County	4,200	4,150
Barbers Hill	900	1,050
Others	2,450	2,650
Totals	120,450	121,350
Texas Total	645,100	654,750

OKLAHOMA

North Braman	3,100	3,100
South Braman	1,850	1,950
Blackwell	3,850	3,850
Hubbard	2,800	2,850
Thomas	1,900	1,900
Tonkawa	15,150	1,520
Garber	10,450	10,450
Burbank	38,600	36,850
Osage (Outside Burbank)	29,700	29,800
Watchorn	1,300	1,350
Cushing	21,050	21,050
Yales Jennings	9,050	9,100
Davenport	2,350	2,400
Bristow Slick	24,600	24,600
North Okmulgee	16,000	16,000
Lyons Deaner	6,200	6,200
Stroud	1,250	1,250
Cromwell	10,650	10,600
Papoose	5,600	5,650
Wewoka	8,950	10,450
Seminole	56,650	55,650
Bowlegs	107,950	108,450
Searight	21,150	21,300
Little River	38,150	38,750
Earlsboro	137,450	143,100
Duncan District	6,800	6,650
Graham	6,250	6,450
Fox	1,850	1,900
Healdton	14,600	14,700
Hewitt	9,200	9,400
Scholem Alechem	12,800	12,350
Others	74,000	72,450
Totals	701,250	705,750

CALIFORNIA

Santa Fe Springs	38,500	38,500
Long Beach	118,000	113,000
Huntington Beach	60,500	61,000
Torrance	20,000	20,000
Dominguez	13,500	14,000
Rosecrans	8,000	8,500
Inglewood	31,800	31,800
Midway-Sunset	81,000	81,000
Ventura Avenue	52,000	51,500
Seal Beach	42,500	43,000
Others	159,000	159,000
Totals	624,800	621,300

ARKANSAS

El Dorado	5,900	6,250
Smackover Light	9,200	9,350
Smackover Heavy	71,150	71,550
Stephens	1,150	1,150
Nevada	3,100	3,350
Lisbon	2,700	2,700
Others	150	100
Totals	93,350	94,350

KANSAS

	Dec. 31	Dec. 24
Greenwood County	31,000	31,000
Florence-Covert	1,450	1,400
Peabody-Ebling	3,750	3,750
Eldorado-Towanda	14,250	14,250
Augusta-Fox Bush	4,100	4,150
Rainbow Bend	2,050	2,100
Russell	2,300	2,300
Churchill	12,150	12,550
Others	36,800	34,000
Totals	107,850	105,550

NORTH LOUISIANA

Homer	4,550	4,500
Haynesville	6,750	6,600
Caddo Light	11,900	12,050
Caddo Heavy	4,050	3,750
DeSoto-Red River	4,200	4,200
Elm Grove	600	650
Bellevue	1,050	1,100
Cotton Valley	4,800	4,800
Urania	7,850	8,500
Pleasant Hill	850	850
Totals North Louisiana	46,600	47,000

LOUISIANA GULF COAST

Vinton	4,750	4,750
Lockport	4,800	4,800
Evangeline	1,150	1,200
Edgerly	2,850	2,600
Others	1,500	1,550
Total La. Gulf Coast	15,050	14,900
Louisiana Total	61,650	61,900

MOUNTAIN STATES

WYOMING

Salt Creek	38,950	42,550
Grass Creek	2,500	2,500
Elk Basin	900	650
Big Muddy	2,700	2,700
Lost Soldier	2,700	2,600
Rock River	2,550	2,750
Lance Creek	600	650
Others	3,550	3,500
Totals	54,450	57,900

MONTANA

Cat Creek	1,850	1,850
Sunburst	9,500	9,500
Others	150	150
Totals	11,500	11,500

COLORADO

Moffats (Craig)	1,150	1,200
Fort Collins	3,150	3,150
Florence	950	750
Others	550	1,300
Totals	5,800	6,350

NEW MEXICO

Artesia	1,450	1,400
Table Mesa	400	...
Hogback	650	600
Rattlesnake	900	200
Others	100	100
Totals	3,500	2,300
Total Mountain States	75,250	78,050

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va, Pa., Ky., and N. Y.)	110,500	110,500

PRODUCTION SUMMARY

East of Rockies	1,719,700	1,742,850
United States	2,419,750	2,432,200

CRUDE OIL PRICE QUOTATIONS

CURRENT POSTINGS

EASTERN STATES

	Jan. 3 1928
New York Transit	$2.65
Bradford District	2.65
National Transit	2.55
Southwest	2.55
Eureka	2.50
Buckeye	2.25
Macksburg	2.80
Gaines	2.60
Somerset	1.50
Cabell	1.40
Ragland	.95
Corning, 35-cent grade	1.45
Corning, 25-cent grade	1.35
Keister	1.10

CENTRAL STATES

Illinois	1.60
Indiana	1.48
Lima	1.71
Plymouth	1.33
Princeton	1.60
Waterloo	1.18
Wooster	1.57

WESTERN KENTUCKY

Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren,

All grades	1.50

MID-CONTINENT

Prairie, Sinclair, Gulf, Texas and Magnolia*

	Jan. 3 1928
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gracity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

*Magnolia's price for below 30 gravity is $1.05. Magnolia's price on Glasscock County crude is 80 cents per barrel, flat, and is also 80 cents on all crude in Howard County that comes from section 136, block 29 W & NW Railway Survey.

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs crude.

Humble O. & R. Co. and Texas Co.*

	Jan. 3 1928
Below 25 gravity	.90
25 to 25.9 gravity	1.06
26 to 26.9 gravity	1.08
27 to 27.9 gravity	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.0 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

Corsicana Heavy, $1.00 per barrel, posted by Magnolia.

*The Texas Company's Postings begin at 28 to 28.9.

SOUTH TEXAS

	1928 Jan. 3
Mirando	1.00

SOMERSET

Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

GULF COAST

Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity*	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

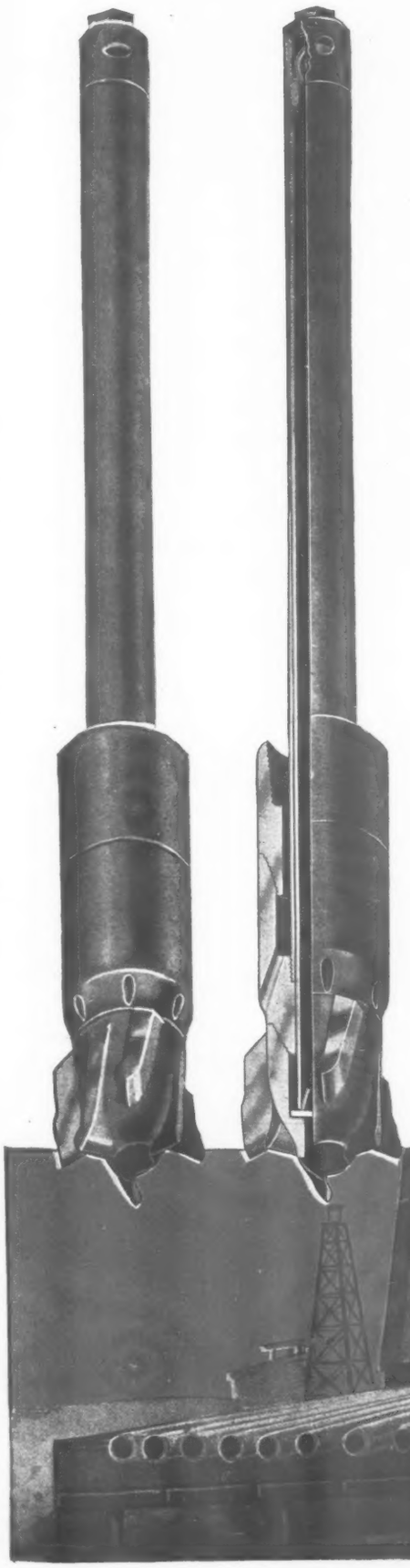
CALIFORNIA CRUDE OIL PRICES AT THE WELL

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated.)

Gravity (degrees)	Signal Hill	Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Whittier La Harbra		Coyotte Hill	Santa Fee Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler
14-14-9	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$. 85	$ .85	$. 85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
16-16-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
17-17-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
18-18-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
19-19-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
20-20-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	..	.77	.77	.77	.76	.76
21-21-9	.86	.86	.86	.86	.86	..	.86	.86	.85	.85	.86	.85	..	.79	.79	.79	.77	.77
22-22-9	.87	.87	.87	.87	.87	..	.87	.87	.85	.85	.87	.85	..	.81	.81	.81	.78	.78
23-23-9	.88	.88	.88	.88	.88	..	.88	.88	..	.85	.88	.85	..	.83	.83	.83	.79	.79
24-24-9	.89	.89	.89	.89	.89	..	.89	.89	..	.85	.89	.85	..	.85	.85	.85	.80	.80
25-25-9	.90	.90	.90	.90	.90	.90	.90	.90	..	.86	.90	.86	..	.87	.87	.87	.81	.81
26-26-9	.92	.92	.92	.92	.92	.92	.92	.92	..	.87	.91	.87	..	.89	.89	.89	.83	.82
27-27-9	.94	.94	.94	.94	.94	.94	.94	.94	..	.88	.92	.88	..	.91	.91	.91	.85	.83
28-28-9	.96	.96	.96	.96	.96	.96	.96	.96	..	.89	.93	.89	..	.93	.93	.93	.87	..
29-29-9	.98	.98	.98	..	.98	.98	..	1.00	..	.91	.95	.93	..	.99	.99	.99	.91	..
30-30-9	1.00	1.00	1.00	..	1.00	1.00	..	..	..	..	..	.95	..	1.02	1.02	1.02	.93	..
31-31-9	1.03	1.03	1.03	..	..	1.03	..	..	..	..	..	.97	..	1.05	1.05	1.05	.95	..
32-32-9	1.06	1.06	1.06	..	..	1.06	..	..	..	..	..	.99	..	1.08	1.08	1.08	.97	..
33-33-9	..	..	..	..	..	1.09	..	..	..	..	..	1.01	..	..	..	1.11	.99	..
34-34-9	..	..	..	..	..	1.12	..	..	..	..	..	1.03	..	..	..	..	1.01	..
35-35-9	..	..	..	..	..	1.15	..	..	..	..	..	1.06	..	..	..	..	..	..
36-36-9	..	..	..	..	..	1.18	..	..	..	..	..	1.09	..	..	..	..	..	..
37-37-9	..	..	..	..	..	1.21	..	..	..	..	..	1.12	..	..	..	..	..	..
38-38-9	..	..	..	..	..	1.24	..	..	..	..	..	1.15	..	..	..	..	..	..
39-39-9	..	..	..	..	..	1.27	..	..	..	..	..	..	..	..	..	..	..	..
40-40-9	..	..	..	..	..	1.30	..	..	..	..	..	..	..	..	..	..	..	..
41-41-9	..	..	..	..	..	1.33	..	..	..	..	..	..	..	..	..	..	..	..
42-42-9	..	..	..	..	..	1.36	..	..	..	..	..	..	..	..	..	..	..	..

The PERFECTION Core Barrel

Dependable!



Wherever they are being run, Perfection Core Barrels are known — and noted — FOR THEIR OUTSTANDING DEPENDABILITY. PERFORMANCE alone has established the PERFECTION AS THE MOST RELIABLE ROTARY CORING TOOL.

Five sizes of barrels.

Cutter heads 4¼ to 14".

Write for prices and pamphlets.

OKLAHOMA OFFICE:
2 East California St., Oklahoma City, Okla.

DISTRIBUTORS:
Wilson Supply Co., Houston, Texas
Hercules Supply Co., Dallas, Texas
Hercules Supply Co., Vernon, Texas

EXPORTERS:
Continental Well Supply Co.
74 Trinity Place,
New York City

OIL CITY IRON WORKS
SHREVEPORT, LA.

MARKHAM

	Jan. 3 1928
The Texas Company	
All grades	1.00

LULING

All grades	1.00

PANHANDLE

(Humble Oil & Refining Company and Magnolia Petroleum Company, Gulf Pipe Line Company and Kay County Gas Company)*

Hutchinson, Carson and Wheeler counties, all grades	.75

*Gulf and Kay County do not post in Wheeler County.

Gray County
(Humble Oil & Refining Company)

28 to 28.9 gravity	.80
29 to 29.9 gravity	.82
30 to 30.9 gravity	.84
31 to 31.9 gravity	.86
32 to 32.9 gravity	.88
33 to 33.9 gravity	.90
34 to 34.9 gravity	.92
35 to 35.9 gravity	.94
36 to 36.9 gravity	.96
37 to 37.9 gravity	.98
38 to 38.9 gravity	1.00
39 to 39.9 gravity	1.02
40 to 40.9 gravity	1.04
41 to 41.9 gravity	1.06
42 to 42.9 gravity	1.08
43 to 43.9 gravity	1.10
44 and above	1.12

(Humble Oil & Refining Company)

Crane, Upton, Crockett and Pecos counties, all grades	.60

WEST TEXAS

(Humble, Gulf, Magnolia, Kay County Gas Company and Southern Crude Oil Purchasing Company)*

Crane, Crockett, Pecos, Upton and Winkler, Counties	.60

*Kay County Gas Company does not buy in Winkler and Pecos Counties, and Southern does not buy in Pecos or Crockett.

Col-Tex Refining Company

Mitchell County	$ .93

WYOMING-MONTANA
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.33
Grass Creek	1.33
Rock Creek	1.25
Lost Soldier	.95
Lance Creek	1.33
Mule Creek	1.10
Notches	.65
Big Muddy	1.25
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.33
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30

MONTANA

Sunburst	1.35
Cat Creek	1.33
Lake Basin	2.20

NEW MEXICO

Artesia	1.00
Hogback	1.38

CANADA

	Jan. 3 1928
Oil Springs	2.18
Petrolia	2.11

*Bounty on Canadian crude is ¼-cent per gallon, or 26¼ cents per barrel.

LOUISIANA-ARKANSAS

(Standard of Louisiana, Louisiana Oil Refining Company, Gulf Refining Company of Louisiana and The Texas Co.) Homer, Haynesville, Caddo, El Dorado, De Soto and Chrichton.

Below 28 gravity	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

Atlantic Oil Producing Company posts this same schedule on Homer, Haynesville, and West El Dorado.

Magnolia Petroleum Company has the same posting on Pine Island, Haynesville, Eldorado and Bull Bayou.

STEPHENS
(All Companies)

Below 28	1.00
28 to 28.9 gravity	1.04
29 to 29.9 gravity	1.04
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.08
32 and above	1.10

SMACKOVER
(All Companies)

Below 24 gravity	$ .85
24 and above	1.00

Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.75
Cotton Valley	.85
Calion	.85

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

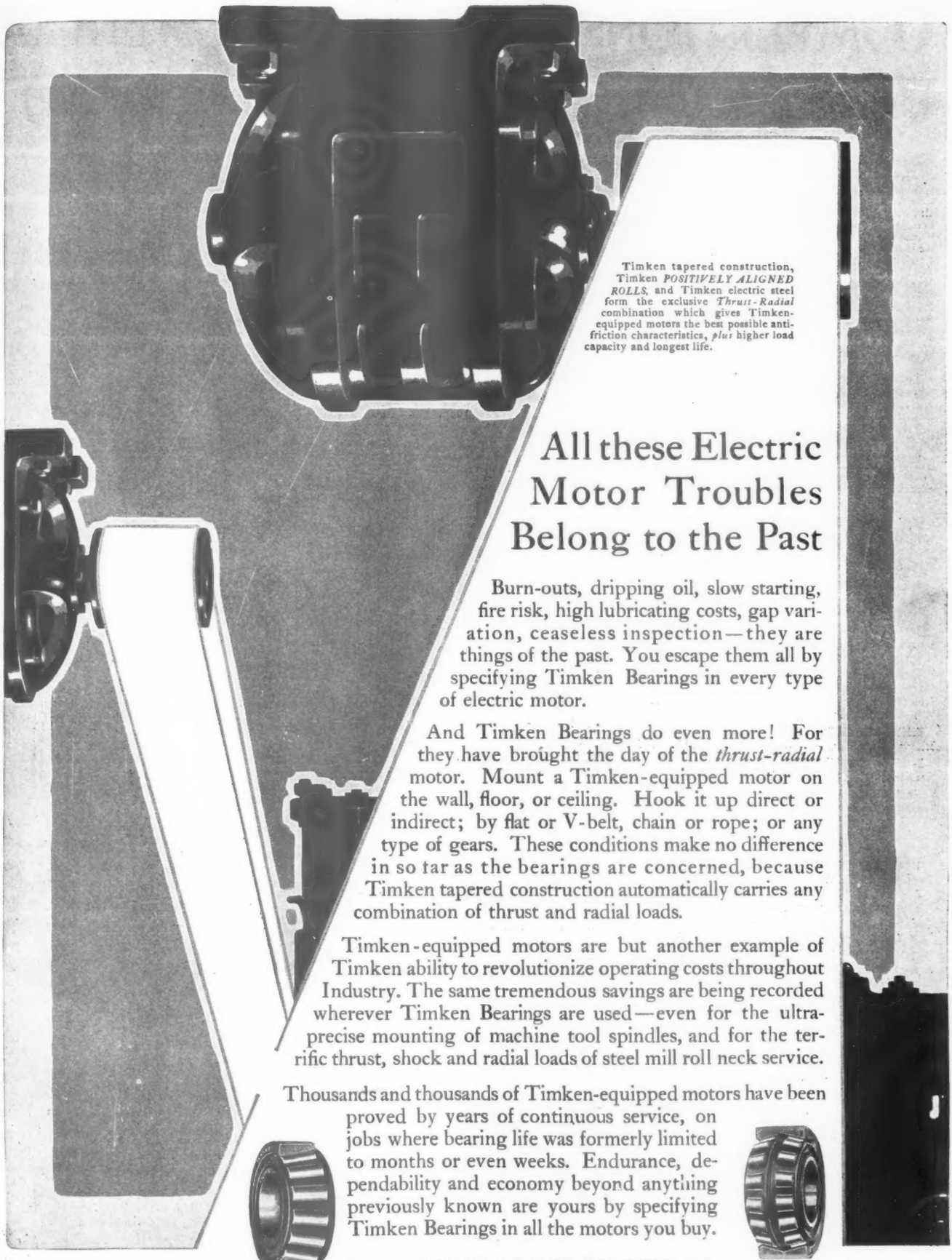
	December 24	December 17
AT ATLANTIC COAST PORTS		
Baltimore	485,000	230,000
Boston	74,000	.....
New York	754,000	(a) 631,000
Philadelphia	181,000	150,000
Others	250,000	79,000
Total	1,744,000	1,090,000
Daily average	249,142	155,714
AT GULF COAST PORTS		
Galveston District	.....	.....
New Orleans and Baton Rouge	191,000	60,000
Port Arthur and Sabine District	.....	26,000
Tampa	15,000	.....
Total	206,000	86,000
Daily average	29,429	12,286
AT ALL UNITED STATES PORTS		
Total	1,950,000	1,176,000
Daily average	278,571	168,000
Daily average four weeks ended	211,000	198,714

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

	December 24	December 17
AT ATLANTIC COAST PORTS		
Baltimore	152,000	110,000
Boston	.....	.....
New York	72,000	169,000
Philadelphia	239,000	.....
Others	61,000	.....
Total	524,000	336,000
Daily average	74,857	48,000
AT GULF COAST PORTS	20,000	.....
Daily average	2,857	.....
Total Atlantic and Gulf Coast Ports	544,000	336,000
Daily average	77,714	48,000
Daily average four weeks ended	84,679	68,000
DISTRIBUTION OF TOTAL CALIFORNIA RECEIPTS IS AS FOLLOWS:		
Crude	79,000	110,000
Gasoline	465,000	95,000
Gas oil	.....	74,000
Lubricating oils	.....	57,000
Total	544,000	336,000

(a) Revised.



Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS*, and Timken electric steel form the exclusive *Thrust-Radial* combination which gives Timken-equipped motors the best possible anti-friction characteristics, *plus* higher load capacity and longest life.

All these Electric Motor Troubles Belong to the Past

Burn-outs, dripping oil, slow starting, fire risk, high lubricating costs, gap variation, ceaseless inspection—they are things of the past. You escape them all by specifying Timken Bearings in every type of electric motor.

And Timken Bearings do even more! For they have brought the day of the *thrust-radial* motor. Mount a Timken-equipped motor on the wall, floor, or ceiling. Hook it up direct or indirect; by flat or V-belt, chain or rope; or any type of gears. These conditions make no difference in so far as the bearings are concerned, because Timken tapered construction automatically carries any combination of thrust and radial loads.

Timken-equipped motors are but another example of Timken ability to revolutionize operating costs throughout Industry. The same tremendous savings are being recorded wherever Timken Bearings are used—even for the ultra-precise mounting of machine tool spindles, and for the terrific thrust, shock and radial loads of steel mill roll neck service.

Thousands and thousands of Timken-equipped motors have been proved by years of continuous service, on jobs where bearing life was formerly limited to months or even weeks. Endurance, dependability and economy beyond anything previously known are yours by specifying Timken Bearings in all the motors you buy.

SINGLE ROW TIMKEN BEARING

THE TIMKEN ROLLER BEARING CO.
C A N T O N , O H I O

DOUBLE ROW SELF-CONTAINED TIMKEN BEARING

TIMKEN *Tapered Roller* BEARINGS

Say you saw it in The OIL WEEKLY

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	3	6	1	4	1	..	1	2	25	2,235
California	9	28	8	15	..	..	1	13	1,840	7,195
Colorado	..	2	..	2	..	..	..	..	....	29
Illinois	1	..	..	..	..	..	1	..	....	....
Indiana	..	7	..	1	..	2	..	4	....	20
Kansas	22	12	15	6	..	2	7	4	4,085	1,980
Kentucky	14	13	6	8	1	1	7	4	243	552
Louisiana	22	20	7	4	6	7	9	9	1,633	180
Michigan	8	1	4	..	..	1	4	..	58	....
New York	..	19	..	19	..	..	..	..	....	39
Ohio	30	16	11	11	13	1	6	4	142	148
Oklahoma	59	52	28	25	14	9	17	18	10,580	10,185
Pennsylvania	1	75	1	65	..	5	..	5	10	162
Tennessee	..	10	..	8	..	..	..	2	....	173
Texas	64	76	36	35	3	2	25	39	71,427	49,570
West Virginia	8	22	3	5	5	15	..	2	195	73
Totals	241	359	120	208	43	45	78	106	90,238	72,541
Increase this week	..	..	..	..	..	..	..	..	16,064	....
Decrease this week	118	..	88	..	2	..	28	..	....	....

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; loc—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; woar—waiting on standard rig.

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
BELRIDGE—		
Carneros Oil Co., No. 83, 30-28-21	125	672
No. 84, 30-28-21	150	680
DOMINGUEZ—		
Union Oil Co., Callender 20	25	4190
HUNTINGTON BEACH—		
Western Drilling & Producing Co., No. 2	150	2200
Key West Oil Co., No. 4	40	2200
World Petroleum Corp., M. & B. 7	1000	4340
KERN FRONT—		
Bishop Corp., No. 4, 23-28-27	250	2065
SANTA FE SPRINGS—		
Standard Oil Co., W. C. 20	water	4450
SUNSET—		
General Pet. Corp., Essex 14B	100	2615

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Keen et al, Beedles 1, sec sw se, 5-27-6e	*	3149
COFFEY COUNTY—		
Sheedy et al, Hanner 3, swc se sw, 11-23-13e	20	1850
COWLEY COUNTY—		
Arkansas Fuel Oil Co., Biddle 4, nec nw, 7-32-5e	*	3538
ELK COUNTY—		
Watchorn Oil & Gas Co., Denton 10, Denton 10, swc nw, 3-30-9e	50	2304
Pennock Oil Co., Collyer 1, sec ne sw, 30-30-11e	50	1528
Landon et al, Mann 1, nec, 22-31-10e	20	1643
Jacqueline Oil Co., Hawkins 2, nec nw se, 34-29-12e	20	844
Ohio Fuel Oil Co., Mullendore 1, c nw nw, 20-29-10e	*	1275
Elk Pet. Co., Mullendore 1, swc nw sw, 3-30-9e	*	....
GREENWOOD COUNTY—		
Empire, Garth 4, swc ne ne, 22-22-11e	60	1916
Schwab 3, sec ne ne, 25-22-12e	230	1734
Ott 1 "C," nwc ne ne, 26-22-12e	135	1724
Kolb 1, nwc ne, 15-25-13e	25	1424
Rogers et al, Mills 1, sec nw nw nw, 2-26-10e	25	1985
McGinnis et al, Mills 1, nec sw sw, 4-27-11e	100	838
Kanson Oil Corp., Lamon 1, nec nw nw, 30-22-13e	*	1790
MARION COUNTY—		
Harwood & Winters, Mott 1, sec sw 2-17-4e	*	2390
10-12	45	3240
SUMNER COUNTY—		
Roxana, Emerich 4, tract 5, Oxford Townsite, 14-32-2e	3230	2105
Community 7, lot 7, blk 38, City of Oxford, 14-32-2e	75	2114
Phillips, Nevitt 1, sec nw, 24-32-2e	*	3204

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
Magnolia, Choens 1, se sw, 33-1s-3w	280	3710
Ratliff 2, se sw nw, 29-1s-3w	160	2817
Roxana, Frazier 1, swc ne, 2-5s-3w	*	3445
COTTON COUNTY—		
Howe & Leeper, Lindsey 2, swc nw se sw, 27-1s-10w	30	2185
CREEK COUNTY—		
Twin State, Barnett 1, nwc ne nw, 15-15-8e	¶9	3214
Stover et al, Hay 2, c sw nw, 10-17-10e	100	2570
Independent, Wolfe 4, ne c sw ne, 18-14-10e	650	3444
Murta & Cole, Froe 1, nec sw 35-16-10e	*	3034
GRADY COUNTY—		
Hamon & Cox, Smith 4, nwc sw nw, 16-3n-5w	170	2306
Carter, Ray-Horton 1, sw se nw, 8-3n-5w	100	2792
Noble & Westerfelt, McCaughtry 4, nw ne nw, 35-5n-8w	¶26	2400
Okla. Gas Utilities Co., Farwell 7, nwc sw, 26-5n-8w	¶35	2400
Farley et al, Woods 1, nw sw sw, 1-4n-8w	*	....
KAY COUNTY—		
Barnsdall & Margay, Kirwin 1, nwc, 2-25-2w	¶1	1158
Harold Pet. Co., Case 6, cel w½ se sw, 4-27-1w	200	3424
Greer et al, Koehler 1, c se ne, 30-28-1e	*	1090
McINTOSH COUNTY—		
Beggs Oil & Gas Co., Bray 3, c se se, 3-12-15e	*	....
MURRAY COUNTY—		
Thompson Oil Corp., Freeman 1, sec, 27-1s-2e	*	....
MUSKOGEE COUNTY—		
C. B. Crittenden, 1, ne nw ne, 6-14-19e	*	658
C. S. Hully, E. Deer 2, nwc sw sw, 36-15-18e	*	....
OKFUSKEE COUNTY—		
Texas Co., Tiger 2, sec ne se, 35-11-11e	¶3	2477
OKMULGEE COUNTY—		
Campbell & Beams et al, George 1, nwc ne sw, 2-15-12e	¶5	2044
M. T. C. Oil Co., Cooper 1, sec sw, 25-16-13e	¶10	1630
Sheedy & McBrayer, Smith 1, swc se, 9-15-14e	¶1	1923
McCullouch Oil Co., Stanley 2, nec nw se, 29-16-13e	*	1790
OSAGE COUNTY—		
Phillips, 5, ne c sw, 17-27-6e	425	2960
Kewanee, 6, se ne sw 34-27-6e	150	2815
Geo. Parker 1, c s l ne 22-25-7e	*	2680
PAWNEE COUNTY—		
Watchorn Oil & Gas Co., Miller 4, sw c 33-23-3e	*	4505
PONTOTOC COUNTY—		
American Oil & Ref. Co., Mercer 1, c e½ 8-4n-6e	¶6	1324
W. R. Ramsey, Butler 1, ne c 30-5n-8e	275	2939
Milne 4, se c 18-5n-8e	¶22	2355
McElroy 2, ne c sw 17-5n-8e	¶30	2373
La. Oil Ref. Co., McElroy 3, nw sw se 17-5n-8e	150	2515
W. R. Ramsey, Patterson 1, ne c nw 29-5n-8e	*	2844
Texas Pacific C. & O. Co.'s Miller 1, ne nw sw 27-5n-6e	*	2980
POTTAWATOMIE COUNTY—		
Magnolia, Cowden 4, sw ne sw 4-9-5	*	4690
Superior Oil Corp.'s Cloude 1, sw nw 24-7n-4e	¶17	3775
Tidal, Watkins 4, nw ne nw 9-9-5	50	4303
SEMINOLE COUNTY—		
W. B. Pine, Lula 1, ne c sw 4-9-6	50	4470
Superior, Varnum 1, ne sw nw, 4-9-6	105	4500
Barnsdall, Sango 2, ne se nw, 1-9-5	3100	4708
Carter, Sango 3, se ne sw, 1-9-5	715	4334
Texas Co., Wilmott 6, ne c se, 10-9-5	200	4519
Magnolia, Seay 7, nw sw sw, 12-9-5	25	4344
Gypsy, Solomon 1, se c ne, 21-10-7e	50	3734
Butler 4, se ne ne 35-9-6	250	4277
Pure, Strothers "D" 7, se c sw 11-8-6	280	4485
Magnolia, Rhoades 1, se ne sw, 12-8-6	680	4188
Carter, Walker 2, nw sw se 15-8-6	135	4160
Amerada, Pattey 3, ne nw ne 35-8-6	850	4274
Producers & Refiners Corp., Dungan 3, ne nw se 35-8-6	600	4458
Magnolia, Cruse 1, nw se se 2-7-6	765	4215
STEPHENS COUNTY—		
Geo. Pace et al, Fobb "C" 2, sw c nw se 12-2s-8w	*	2508
Gilmer Oil Co., Inscore 4, sw se se 24-1s-4w	*	3075
TULSA COUNTY—		
Posey Short, Clinton 2, nw c ne se 23-19-12e	¶2	1178
Holmes et al, Oklahoma Oil Co. 1, c w l sw se 14-19-10e	*	2317
WAGONER COUNTY—		
Baldridge et al, Childers 1, c sw nw 22-18-17e	¶5	785
Tedray Oil Co., Bright 3, ne c nw se 4-17-16e	35	730

LOUISIANA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BOSSIER PARISH—		
Belchick & Laskey, Roberson 1, 22 23-12	¶15	3085
C. F. Davis, Simpson 4, 14-16-12	¶1½	861
H. S. Goodwin Tr.'s Curtis 1, 2-16-13	¶4	2585
CADDO PARISH—		
Magnolia Pet. Co.'s Robertshaw 21, 23-21-15	613	3928
Simplex Oil Co.'s Hunsucker 1, 15-20-15	150	2215
DE SOTO PARISH—		
Benson Oil Co.'s Wolf 1, 3-10-13	40	3008
OUACHITA PARISH—		
Southern Carbon Co.'s Fairbanks 8, 38-19-4e	¶5	2133
RICHLAND PARISH—		
Natural Gas & Fuel Corp.'s Sortor A-1, 9-16-6e,	¶66	2445
SABINE PARISH—		
Magnolia Pet. Co.'s Rembert 2, 32-		

Fishing Tools Drilling Tools

AMERICAN IRON & MACHINE WORKS, INC. · OKLAHOMA CITY ·

ABOVE. American Rock Bit Break-Out Block. Approximate weight 165 lbs. PATENTED

Another new one— *for the Drilling Industry*

Here's a new one—The American Rock Bit Break-Out Block—the first and only ever offered the drilling industry. Note the illustration to the left.

When the American organization started in to perfect this new tool for the drilling industry—they sought to make it practical from every standpoint and this they did.

The American Rock Bit Break-Out Block is designed to hold the bit firmly in place while breaking the joints. This means speed and safety for the men on the rig.

Small drain holes in the bottom of the block let the water and slush drain back.

This tool is a time saver—and a protector against losing or damaging rock bits while breaking joints.

Scores of the leading contractors are already using this marvelous break-out block. Examine it yourself at the nearest supply store. The standard size will fit any rotary table for the 11-inch rock bit. Bushings are obtainable if smaller size bits are used.

Details on the American Rock Bit Break-Out Block are presented in the American Catalog of Oil Field Equipment. Write for it. Look over the list of American Oil Field Equipment listed below. Sold by the leading supply companies the world over.

American Iron and Machine Works, Inc.

MANUFACTURERS OF OIL FIELD EQUIPMENT

OKLAHOMA CITY, OKLAHOMA

American Oil Field Equipment

American Releasing and Circulating Overshots
American Rock Bit Wrenches
American Milling Shoes
American Flexible Couplings for Rock Bit Lubricators
American Steel Tool Houses
American Forged Steel Wall Hooks
American Rock Bit Breakout Blocks
American Rock Bit Cone Fishing Sockets
American Paraffin Bits
American Female Die Nipples
American Tapered Taps
American Forged Steel Subs
American Rotary Shoes
American Cone Fishing Baskets
American Steam Lubricators
American Combination Reverse and Throttle Levers
American Side Tracking Mills
American Rock Bit Wash Pipe Attachments
American Rotary Milling Tools
American Myracle Sucker Rod Sockets
American Surface Bit Attachments for Rock Bits
American Drill Pipe Float Joints

Company, Well and Location	Initial Production Bbls.	Depth
WEBSTER PARISH—		
Magnolia Pet. Co.'s Marshall 5, 21-21-10	15	2531
Ohio Oil Co.'s Holloway 4, 23-21-10	¶2½	4537

ARKANSAS

NEVADA COUNTY—		
Wright Oil Co., Groves 3, 12-14-21	25	1151
UNION COUNTY—		
Ohio Oil Co., Rick Pumphrey 1, 2-17-14	¶20	3012

EASTERN STATES

PENNSYLVANIA

GREENE COUNTY—		
Nuss & McClay, Clyde Ray 1	10	....

WEST VIRGINIA

MINGO COUNTY—		
Old Colony O. & G. Co., Klosterman 17	¶	....
Klosterman 18	75	....
WOOD COUNTY—		
Sweeney & Nelson, Ralston 2	100	....
CLAY COUNTY—		
South Penn Oil Co., Stockley 64	20	....
BRAXTON COUNTY—		
C. F. Engle, Engle 3	¶1½	....
GILMER COUNTY—		
Carnegie Nat. Gas Co., Westfall 2	¶1¼	....
CABELL COUNTY—		
Shipe & Ortman, William Robertson 1	¶1	....
BOONE COUNTY—		
Hope Cons. & Ref. Co., Moore 1	¶2	....

KENTUCKY

OHIO COUNTY—		
Globe Oil Co., Steel 1	25	1100
G. Bednar & Co., Whobrey 1	*	498
DAVIESS COUNTY—		
C. L. Young & Co., Hayden 1	200	....
ESTILL COUNTY—		
Superior Oil Corp., Alexander 29	*	....
30	*	....
Joe Alcorn 12	1	....
Reno Oil Co., Mitchell 10	*	....
11	*	....
12	*	....
FLOYD-KNOTT COUNTIES—		
Ivyton Oil & Gas Co., Turner 1	¶2	....
Gearhart 1	¶1½	....
Distill Martin Oil & Gas, O. Osborn 2	*	....
JOHNSON-MAGOFFIN COUNTIES—		
Hupp, Duff & Co., H. Hammond 2	5	....
Oliver Jenkins & Co., Adams 3	10	....
WAYNE COUNTY—		
W. O. Southern, Jones 9	2	....

SOUTHEASTERN OHIO

JEFFERSON COUNTY—		
S. H. Boyce & Co., Groves 14	6	....
Groves 25	8	....
WASHINGTON COUNTY—		
Burton Vaney & Co., Vaney 1	*	....

CENTRAL OHIO

HOLMES COUNTY—		
The Kemrow Co., Miller 1	¶3	....
I. E. O'Hail, W. W. Scott 1	¶1½	....
East Ohio Gas Co., Williams 2	¶½	....
CUYAHOGA COUNTY—		
Hulse & Kundtz, Ames 1	¶9½	....
McGrath & Co., W. J. & C. Neeson 2	¶3¼	....
John Arthur, J. Pulse 1	¶1	....
MEDINA COUNTY—		
Ohio Fuel Gas Co., Reynolds 2	¶½	....
E. R. Edson Son Co., Wideman 26	*	380
Wertz 38	*	374
WAYNE COUNTY—		
Palmer & Geisinger, Schutt 1	¶¼	....
Wiser Oil Co., Alice McFadden 1	*	....
COSHOCTON COUNTY—		
Cassingham & Bell Bros., Cassingham 22	¶¼	910
Ohio Oil Co., Bob McKelvey 2	¶1½	....
ASHLAND COUNTY—		
Logan Gas Co., Shaw 2	¶½	....
Ringler & Co., N. Heiffner 1	¶¼	....
PERRY COUNTY—		
Pure Oil Co., C. Mooney 1	40	....
Mack Smith & Co., Andy Slable 6	5	....
GUERNSEY COUNTY—		
Mack Smith & Co., Andy Slable 6	5	....
LICKING COUNTY—		
O. W. Zink & Co., Scott 2	3	....
Stillwater O. & G. Co., Morrisey 6	2	....
MEIGS COUNTY—		
Coal Hollow Oil Co., Burnette 5	¶¼	....
KNOX COUNTY—		
East Ohio Gas Co., Mike Strang 1	*	....
STARKE COUNTY—		
Johnson & Stolz, Amos Hess 1	*	....

NORTHWESTERN OHIO

ALLEN COUNTY—		
H. F. Kelly & Co., J. M. Miller 2	25	1367
OTTAWA COUNTY—		
G. Magsig & Son, C. H. Magsig 15	25	1294
AUGLAIZE COUNTY—		
Brookside O. & G. Co., Rodeheffer 1	15	1232
SANDUSKY COUNTY—		
Lindy Oil Co., J. E. Boyer 2	8	1341
MERCER COUNTY—		
A. J. Metzger & Co., S. E. Fetters 4	5	1157

ILLINOIS

CRAWFORD COUNTY—		
M. E. Harris & Co., Sam Randolph 1	*	931

MICHIGAN

SAGINAW COUNTY—		
Sagniaw Pros. Co., Eddy 7	30	....
Wicker Bros., Wicker 4	5	....
Sun Oil Co., Kuck 4	*	....
E. M. Miller, O. K. Railey 1	*	....
MUSKEGON COUNTY—		
Muskegon Oil Co., Unknown 2	20	1610
MACOMB COUNTY—		
Anchor Bay Oil Co., Anchor Bay 1	3	....
SHIAWASSEE COUNTY—		
Sun Oil Co., Gallagher-Scully 1	*	....
LIVINGSTONE COUNTY—		
J. T. Norris, Smith 1	*	....

TEXAS

EAST TEXAS

HARRISON COUNTY—		
Magnolia Pet. Co.'s Anderson 1, J. Womack sur	20	2402
A. L. Waller's Bryson 2, W. R. Anderson sur	¶5½	1916

SOUTHWEST TEXAS

LIVE OAK COUNTY—		
Houston Oil Co., Cartwright 21, Mt. Lucas	¶40	....
JIM HOGG COUNTY—		
Johnson et al, Palacios 22, Randado	75	1275
LULING—		
Magnolia, McKinney 3	25	2115
BEE COUNTY—		
Nichols & White, Hicks 1	*	1410

NORTH TEXAS

ARCHER COUNTY—		
Carey & Rhader, Farmer 3	20	1511
Continental & Perkins-Cullum, Wilson 6	10	1251
Harry Hines Kentucky Oil Co., Wilson 1	*	1511
Harry Hines & Texas Co., Farmer 2	*	1506
Shappel Oil Co., Wilson 16-B	10	903
Shasta Oil Co. & Empire Gas & Fuel Co., Wilson 1	*	1543
BURKBURNETT—		
Ascot Co., Roller 45	*	1485
COOKE COUNTY—		
J. C. McFarland et al, MK&T Fee 2	10	1347
Operators Oil Trust, Kleiss 8	†	1652
HASKKELL COUNTY—		
Moody Corp., Reynolds 1	*	1703
JACK COUNTY—		
Buttram Pet. Co., Jones 5	65	2023
K-M-A & IOWA PARK—		
Cooper & Mishler, Waggoner Bros. 13	*	1894
Petroleum Prod. Co., Love 5-B	40	1816
A. A. Rollstone et al, Schnackenberg 1	†	3590
MONTAGUE COUNTY—		
Roy Carter & Rycade, Cunningham 1	55	938
Continental, Maddox 24-A	30	931
Pure, Loy 2	60	805
Sigler et al, Maddox 4	40	935
SOUTH VERNON DIST.—		
Waggoner Ref. Co., Waggoner 1-E	75	2330

WEST TEXAS

CRANE COUNTY—		
Tidal & Turman-Maxwell, University 3-G	340	2888
HOWARD COUNTY—		
Bristow & Merrick, Hooks 4	75	1849
Coyle-Concord Oil Co., Roberts 1	90	1898
MITCHELL COUNTY—		
California Co., Adams 7	100	3090
PECOS COUNTY—		
California Co., Smith 4	2500	1675
Gulf, M. A. Smith 4	18,000	1425
Humble, Smith 5	2760	1475
Mid-Kansas-Transcontinental, Yates 13-B	3720	1040
Yates 14-B	2160	1042
Yates 17-B	22,800	1075
Osage Oil Corp. et al, Halff 1	12,000	1051
UPTON COUNTY—		
Skelly, Lane 1	60	2080
T&P Coal & Oil Co., Lane 11-A	80	2070
WINKLER COUNTY—		
Atlantic, Hendrick 1-D	3100	3012
Southern Crude & Westbrook, Hendrick 2-C-T-88	1500	2892

CENTRAL WEST TEXAS

BROWN COUNTY—		
Cranfill-Reynolds & Sun., Smith 12	20	1354
Nichols et al, Watson 1	*	1590
CALLAHAN COUNTY—		
Kelly et al, Radford 1	*	650
Tollett & Graham, Alvord 2	¶15	995

TEXAS PANHANDLE

GRAY COUNTY—		
Magnolia, Merton 18	60	3288
Operators Oil Co., Jackson 1	1000	3008
Skelly, Jackson 1	60	3012
HALE COUNTY—		
A. S. Mims et al, Richter 1	*	1405

TEXAS GULF COAST

ORANGE—		
Gulf Coast Oil Corp., Leon 5	*	3350
HULL—		
Republic Prod. Co., Dolbear 39	150	2400
BATSON—		
Ada Belle Oil Co., McGoldrick Stateland 117	5	1180
SPINDLE TOP—		
Rio Bravo Oil Co., T. & N. O. 2	200	3414

SOUTH LOUISIANA

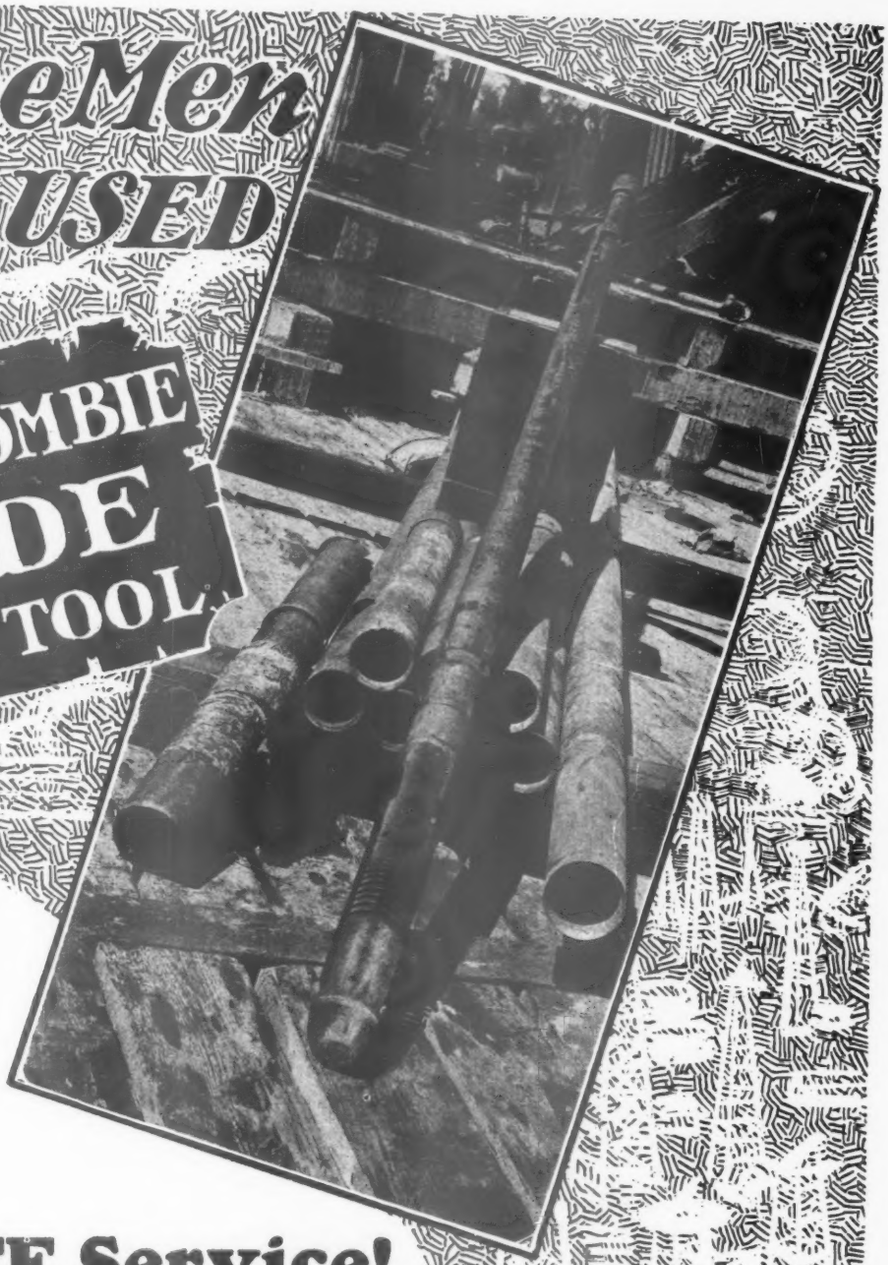
EDGERLY—		
Rex. Pet. Co., Ecker 1	*	2990
EVANGELINE—		
The Texas Co., Latrielle 106	*	2410
Salt Dome Oil Co., Cruse et al 1	50	1700
STARKS DOME—		
Gulf, Lutcher-Moore 7	*	5200
LOCKPORT—		
Vacuum-Gulf, Farquahar et al 3	720	4400
VINTON—		
Vinton Pet. Co., Gray 48	*	2830

Water Well Making Oil

Great Falls, Mont.—A water well in the Kevin-Sunburst field, after having pumped nothing but water for two months, is now flowing 200 barrels of oil per day. The well is the Barnhill-Baker-Barger 1, on the east edge of Adams-Harte-Wilcox pool, southwest of section 9-34-1w about three-fourths mile from the Dakota-Montana Oil Company's first flowing well in the southeastern part of the Kevin-Sunburst pool. It has long been the contention of a group of operators in the Kevin-Sunburst district that the water in this field is exhaustible, and that by pumping it steadily, a flow of oil would be developed.

John O'Neil, prominent Montana operator, spent the holidays at his California home. He will leave January 1 for Philadelphia, where he will attend formal ceremonies attending the christening of the California Petroleum Corporation's new oil tanker. Mr. O'Neil is an officer of the company and the ship is to be named the Mary Ellen O'Neil, after a sister of Mr. O'Neil.

Ask the Men who have USED the J. S. ABERCROMBIE INSIDE CUTTING TOOL



—and the FIRST comment they make will compliment our—

IMMEDIATE Service!

LATE IN THE AFTERNOON we have received long distance phone calls and telegrams—and the next day, one of our operators has been on the job with a cutting tool—AT WORK on the well.

This prompt attention is an added saving of our client's time—but the SPEED, EFFICIENCY and DEPENDABILITY of the tool itself is the greatest economy.

ONE of our 9 Operators can be "On the job" for YOU—Tomorrow

J. S. ABERCROMBIE Co.
616-18 West Bldg. Houston, Texas

Say you saw it in The OIL WEEKLY

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Dec. 31	Previous week	Total for December	1927 year total	This week last year	December total 1926	1926 year total
Arkansas	4	3	24	329	4	42	1,050
California	25	30	156	1,226	...	96	1,389
Louisiana	7	11	71	812	6	87	1,469
Kansas	28	15	103	972	30	131	1,935
Oklahoma	71	42	296	3,703	79	620	5,663
Texas	105	103	670	8,665	200	1,034	13,178
Mountain States	...	9	9	449	5	71	*799
Totals	240	213	1,330	16,149	324	1,881	25,483

*First four months of 1926 not included.

ARKANSAS

OUACHITA COUNTY—Standard Oil Co., Goodwin B-1, 5-16-15, sw cor of se¼ nw¼.

UNION COUNTY—Lion O. & R. Co., Murphy D-7, 8-16-15, ne cor of sw¼ se¼. Magna Prod. Co., Dumos 1, 11-17-14, 150 ft n and 150 ft e of sw cor of ne¼ nw¼ sw¼; Townsend 1, 10-17-14, 200 ft n and 200 ft w of se cor of nk¼ ne¼.

LOUISIANA

BOSSIER PARISH — Belchic & Laskey, Shreveport, H. H. Bain 1, 31-23n-11w, 660 ft n and 660 ft e of sw c sw nw.

CADDO PARISH — Belchic & Laskey, Shreveport, Mrs. B. L. Croom 1, 10-18n-16w, 1320 ft n and 660 ft e of sw c of se se.

DE SOTO PARISH — Benson Oil & Gas Co., Shreveport, Wolf 2, 3-10n-13w, 1120 ft n and 1120 ft w of center.

MOREHOUSE PARISH — Moody & Seagraves, Houston, Texas, Wolf 1, 13-20n-4e, 4361 ft w and 4505 ft s of ne c.

NATCHITOCHES PARISH — Lawson & Pharis, Shreveport, Crowell & Spencer Lbr. Co. 1, 22-5n-6w, 230 ft s and 230 ft w of ne c.

OUACHITA PARISH—Imperial Oil & Gas Prod. Co., Monroe, Stubbs 4, 13-19n-3e, 1200 ft n and 25 ft e of sw cor of se.

UNION PARISH — Ruston Drilling Co., Ruston, Steele 1, 36-20n-3e, 1580 ft s and 525 ft e of nw c.

KANSAS

BUTLER COUNTY—Rosenthal et al, Shaffer 9, sw c se se, 4-27n-6e. Allison & Fitzwilliams, McGinnis 4, nw c ne ne, 9-27n-6e.

COWLEY COUNTY—Shawver et al, Amann 1, nw c, 10-34-3e.

ELK COUNTY—Jacqueline Oil Co., Weirman 1, se c sw ne, 34-29-12e. Pennock Oil Co., Collyer 1, owd, se c ne sw, 30-30-11e. Pickle 1, owd c n l se sw, 30-30-11e. Winemeller et al, Beatty 1, sw c nw se, 30-30-11e. Union Gas Corp., Vick 1, c ne sw, 2-31-10e; Webb 22, c nw ne, 14-31-10e. Jones et al, Webb 6, nw c sw, 23-31-10e.

GREENWOOD COUNTY — Empire Oil & Ref. Co., Demler 7, sw c nw ne, 25-22-12e; Demler 8, se c nw ne, 25-22-12e; Ott 5-A, se c ne nw, 25-22-12e; Ott 5-A, se c ne nw, 25-22-12e; Ott 6-A, se c ne nw, 25-22-12e Schwab 5, se c nw se, 25-22-12e; Schwab 7, sw c nw ne, 25-22-12e; Schwab 8, se c nw ne, 25-23-11e; Haggar 1, nw c sw nw, 9-25-13e.

ROOKS COUNTY—Krueger et al, Poor 1, ne c, 14-8-16w.

RUSSELL COUNTY—Phillips Pet. Co. et al Bungarth 1, sw c nw se, 31-12-15w.

SUMNER COUNTY—Champlin Oil & Ref. Co., Love 3, nw c sw, -30-2e. Roxana Pet. Corp., Stout 1, se c ne, 24-31-2e; Taton 4, ne c sw ne nw, 36-31-2e. Derby Oil Co., Burkett 3, blk 68, 14-32-2e; Bussard 1, nw c, tract 2, 14-32-2e; Emerich 1-A, ne c, tract 5, 14-32-2e. Wasson et al, Gassoway 3, c n l se sw, 14-32-2e. Palmer & Barnsdall Oil Co., Wenrich 1-A, ne c nw, 23-32-2e.

OKLAHOMA

CARTER COUNTY — Magnolia, Cudd 1, sw c nw, 23-1s-3w; Ratliff 3, ne c nw sw, 29-1s-3w; E Hefner 2, sw c ne sw, 33-1s-3w; Choens 2, ne c se sw, 33-1s-3w; L. Johnson 2, sw c nw, 33-1s-3w.

CREEK COUNTY—C. G. Tibbens' Fobes 3, sw c se sw, 20-15n-9e. Henry & Avers, Harris 2, se c sw se, 12-17n-10e. Kennedy & Horner, Strip 2, owd, se c sw sw, 24-18n-11e. Roxana, Sewell 4, ne c nw ne, 18-19n-9e. Gibson & Becker et al, M. Tiger 3, nw c sw, 17-17-7e. Shaffer, L. Tiger 4, sw c nw, 17-17-7e. Gray Oil Co, Beaver 1-A, nw c se sw, 20-15-8e. Magnolia, F. O. Ringer 1, ne c 15-1n-3w.

GRADY COUNTY—Wirt Franklin Oil Corp., Burkes 1, se c ne se, 17-3n-5w. J. J. Hall, Woods 1, sw c, 1-4n-8w.

HUGHES COUNTY—E W. Whitney, Huddlestone 1, se c sw, 17-5n-9e.

KAY COUNTY—Comar Oil Co., Jennings 1, nw c se, 19-27n-1w. Boucher et al, Cooper 1, se c, 23-27n-2w. Ingram & Wilson, Benson 1, c sw sw, 32-28n-1e. Dewey & Hoeffer, School Land 2, 76, sw c se nw, 36-28n-1w. Four Leaf Gas Co., Parker 1, sw c ne sw, 28-29n-1e.

MUSKOGEE COUNTY—Holt & Ivy, A. R. Cherry 1, ne c, sw nw, 2-14n-18e. J. M. Foltz, A G. Woodall 1, se c sw nw, 20-15n-16e.

OKMULGEE COUNTY — J. L. Powell, A. Deer 1, ne c se ne, 20-14n-15e. J. Aggas et al, J. R. Smith 2, nw c ne nw ne, 20-12n-14e. J. H. Rebold Oil & Gas Co., R. C. Brooks 1, sw c ne, 6-15n-13e. Noble Oil & Gas Co., B. Fisher 2, ne c sw, 6-15n-13e. Devonian Oil Co., W. Jones 1, se c nw, 6-15n-13e. Jolly Ogg Oil Co., Crawford 1, sw c ne nw sw, 12-13n-11e. T. D. Young & Garrett, se c sw sw, 21-14n-11e.

OSAGE COUNTY—A. D. McDonnell, se c sw, 6-21n-9e. Devonian 1, nw c se, 18-22n-8e. Carter Oil Co., 6, se c ne se, 3-26-6e; 5, ne c se se, 3-26n-6e; 4, se c 3-26n-6e; 3, ne c nw se, 3-26n-6e; 2, nw c ne se, 3-26n-6e; 1, ne c se, 3-26n-6e. Phillips Pet. Co., 2, nw c sw nw, 2-26n-6e; 1, sw c nw, 2-26n-6e. Wah-Sha-She 1, c n l s½ ne, 6-27n-12e. Osage Gas Prod. Co., 384, se c nw, 5-27n-11e. Kewanee Oil & Gas Co. 1, se c ne, 28-27n-6e; 2, sw c se ne, 28-27n-6e; 3, se c sw ne, 28-27n-6e; 4, nw c se ne; 5, ne c sw ne, 28-27n-6e; 6, nw c ne, 28-27n-6e; Gypsy 8, nw c se, 28-27n-6e. Phillips Pet. Co., 6, nw c ne sw, 17-27n-6e.

PONTOTOC COUNTY — American Oil & Ref. Co., Balcrop 7, sw c nw sw, 9-4n-6e.

POTTAWATOMIE COUNTY — Magnolia Pet. Corp., Martin Hardin 1, sw c nw, 12-7n-4e. McCullough Oil Co. Long 1, se c sw sw, 18-7n-4e. Continental Oil Co., Neghnguit, sw c se nw.

SEMINOLE COUNTY—Ramsey Hulwa 1, se c ne, 7-5n-8e; W. Culley 1, ne c se ne. Louisiana Oil Ref. Corp., Reed 2, se c ne ne, 18-5n-8e. Gardner et al, Harris 1, nw c se, 36-6n-7e. The Texas Co., Reed 1, sw c, 12-8n-5e. Blackwell Oil & Gas Co., Porter 1, se c sw, 3-9n-8e. Sinclair Oil & Gas Co., Cosar 2, se c nw nw, 36-8n-6e. Continental, Cosar 4, sw c ne nw, 36-8n-6e. Gypsy Oil Co., Harjoche 2, sw c nw, 10-8n-6e. Carter Oil Co., S. Micco 1, se c ne, 9-8n-6e. Sinclair Oil & Gas Co., Sango 3, ne c se ne, 2-9n-5e.

STEPHENS COUNTY — Magnolia Pet. Corp., McCulley 1, nw c ne, 28-1s-5w. Geo. Pace et al, Fobb "C" 2, sw c nw ne, 12-2s-8w. Cruce Oil Co., Frensley 1-A, sw c nw ne, 12-1n-6w.

TULSA COUNTY—Jackson & Wise, Sango 3, nw c sw ne, 21-19n-12e. Minshall et al Fife 5, se c sw, 15-19n-11e.

CALIFORNIA

BELRIDGE—Carneros Oil Co., 13, 31-28-21.

HUNTINGTON BEACH—Paul & Collier, 1, 10-6-11. Western Drilling & Prod. Co., Humphrey's 1, 10-6-11. A. G. Deck, Deck 1, 10-6-11. Ben F. Mun, Mun 10, 10-6-11. Miller Oil Co., Community 1, 10-6-11.

KERN FRONT—General Pet. Corp., Sill 16, 26-28-27. California Pet. Corp., Lehmann 4, 23-28-27. Standard Oil Co., 19, 15-28-27.

LONG BEACH—E. B. Campbell, 3, 29-4-12; 4, 29-4-12. California Pet. Corp., Neece 3, 19-4-12; Davidson 8, 19-4-12. Continental Oil Co., Modoc 1, 19-4-12. Delaney Pet. Corp., Harlow 2, 19-4-12. Richfield Oil Co., Monrovia 3, 29-4-12; Denni 6, 29-4-12. Freeman Oil Synd., 1, 29-4-12.

LOS ANGELES COUNTY—A. A. Craig, 1, 11-3-13.

PIRU—Robert B. Moran, 1, 2-4-19.

RINCON—E. J. Miley, H. & H. 3, 17-3-24.

SANTA BARBARA COUNTY—H. M. Gilliam, 1, 2-4-28.

SEAL BEACH—George F. Getty, S. B. 15, 14-5-12.

SESPE — Ellis Lockwood & Howard Barmore, 6, 1-4-20.

VENTURA—Associated Oil Co., Hartman 11, 22-3-23.

VENTURA COUNTRY — Freres & Miller, Conejo 1, 11-1-20.

TEXAS

ARCHER COUNTY—A. D. Hothan, Holliday, Ayers 1, M. Fanning sur, 150 ft from w and 300 ft from n line.

ATASCOSA COUNTY—Sam Draper, Whitset, McCoy 1, W. S. Stilwell sur, w central. Lumbermen's Oil Co., San Antonio, Stephens 1, No. 6, sec 281; Williams 1, No. 275, sec 92; Milgrim 2, No. 79.

ANDERSON COUNTY—Humble, Houston, Smith 1, D. Roberts sur, 550 ft from n and 985 ft from w line.

BROWN COUNTY—Wheelock & Collins, Corsicana, Smith 5, S 3, SA&MG sur, 292 ft e of 3. L. H. Wentz, Eastland, Robertson 1, No. 3, SA&MG sur, 150 ft from n and 450 ft from e line. Kone Prod. Co., Cisco, Hickman 9, T. Benson sur, 600 ft n of 7. W. T. Daniel, Brownwood, Alcorn 1, R. Honeycut sur, 450 ft from n and 150 ft from e line. Cranfill, Reynolds & Janellen Oil Co., Brownwood, Short 2, No. 103, C. E. Jackson sur, 1200 ft from n and 900 ft from w line. Janellen Oil Co., Brownwood, McIntyre 1, blk 47, C. C. S. L. No. 216, 1000 ft from n and e lines. Wheelock & Collins, Corsicana, Smith 7, S 3, SA&MG sur, 150 ft from n and e lines.

BEXAR COUNTY—Schimmel Prod. Corp., Fort Worth, Ginter 3, blk 39, C. A. Yoakum sur, 737 ft from n and 872 ft from e line; 2, 200 ft from n and 420 ft from e line; J. Koehler 22, No. 39, C. A. Yoakum sur, 602 ft s of 5.

CALLAHAN COUNTY — Den Wich Oil Co., Abilene, Warren 9, 2039, TE&L sur, 450 ft from e and 750 ft from n line. A. W. Phillips, Cisco, Hock 1A, 3163, TE&L sur. Phillips & Giles, Cisco, Hock 1, 3163, TE&L sur. Prairie O&G Co., Ranger, Long 2, G. M. Vigal sur, 150 ft from w and 450 ft from s line. C. H. Harwell, Abilene, Wagley 1, S 2, D&D Asy sur, 150 ft from n and 1470 ft from w line. Russell & Greathouse, Baird, Ramsey 1, 2282, TE&L sur, 150 ft from s and 450 ft from

(Continued on page 88)

DUNN TOOLAGRAM

The Dunn Super-Safety Elevator, "Rotary Flyer" Type, on the Chanslor-Canfield-Midway Oil Company's Olinda Well No. 96, the deepest well in the world---8,200 feet.

IN the face of the *fact* that the average well of today is twice the depth of those of only a few years ago, and also that future production undoubtedly is destined to come from still greater depths, it is apparent that absolute safety in oil well drilling operations largely depends upon better, stronger and more efficient devices for this service; and that the years we have spent intensively developing and increasing the safety factor in all Dunn Patented Oil Well Tools have been an investment which will pay inestimable dividends to the petroleum industry in the protection of life and property.

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Mid-Continent Branch Warehouse
215 East Archer St.
Tulsa, Okla.

Office and Works
Oxnard, California

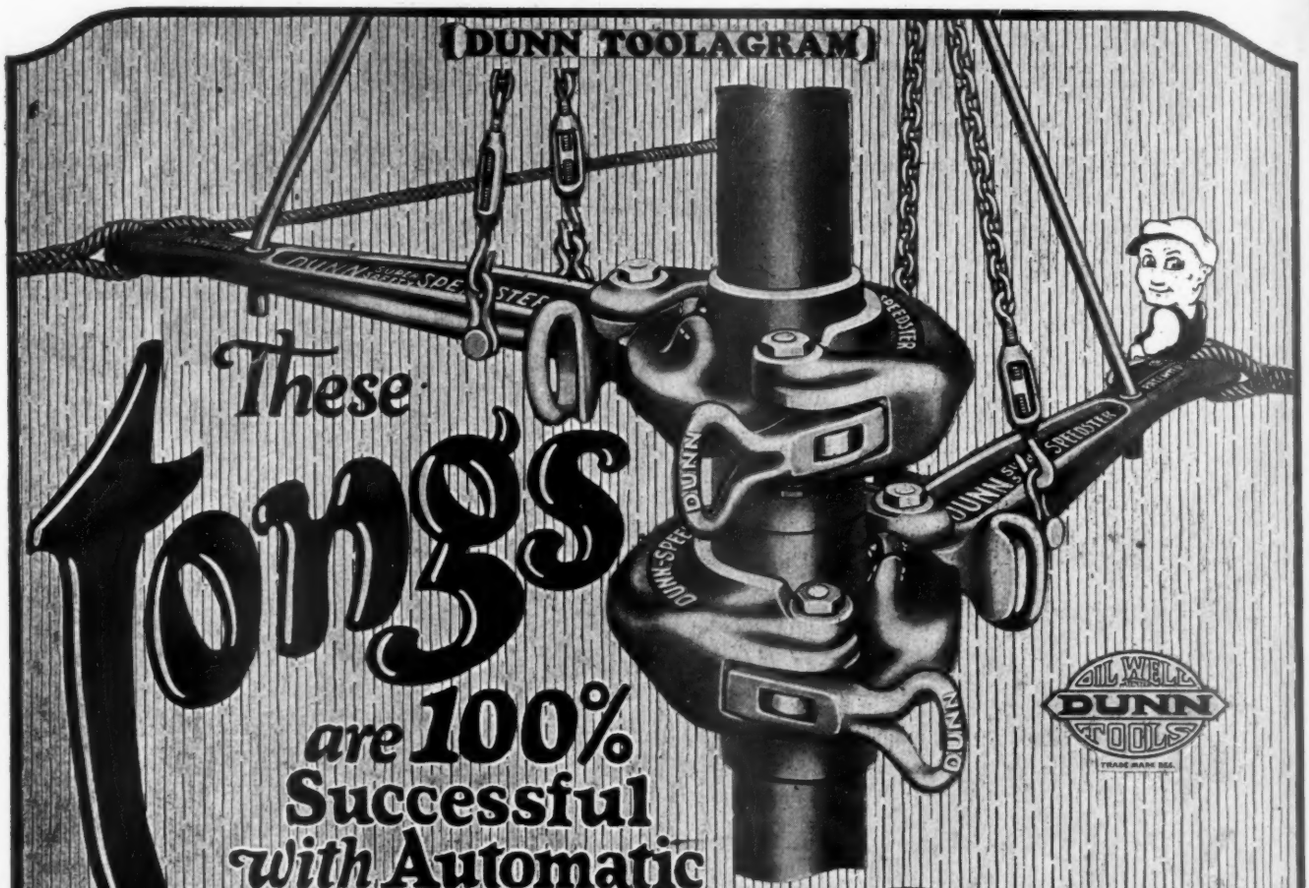
Export Sales Office
150 Broadway,
New York City

OIL WELL DUNN TOOLS

DUNN SAFETY *means* DONE SAFELY

OIL WELL DUNN TOOLS

(DUNN TOOLAGRAM)



These Tongs are 100% Successful with Automatic Catheads

OIL WELL DUNN TOOLS
TRADE MARK REG.

Make Us Prove This

Let us send you any size or type of Dunn Safety Casing or Rotary Tongs prepaid. If it does not prove to be 100% successful, safe, fast and all-round satisfactory for use with any type of automatic cathead, either with or without a "pull-back" or counterbalance line, send it back to us at our expense. No questions asked. Let the tong prove itself.

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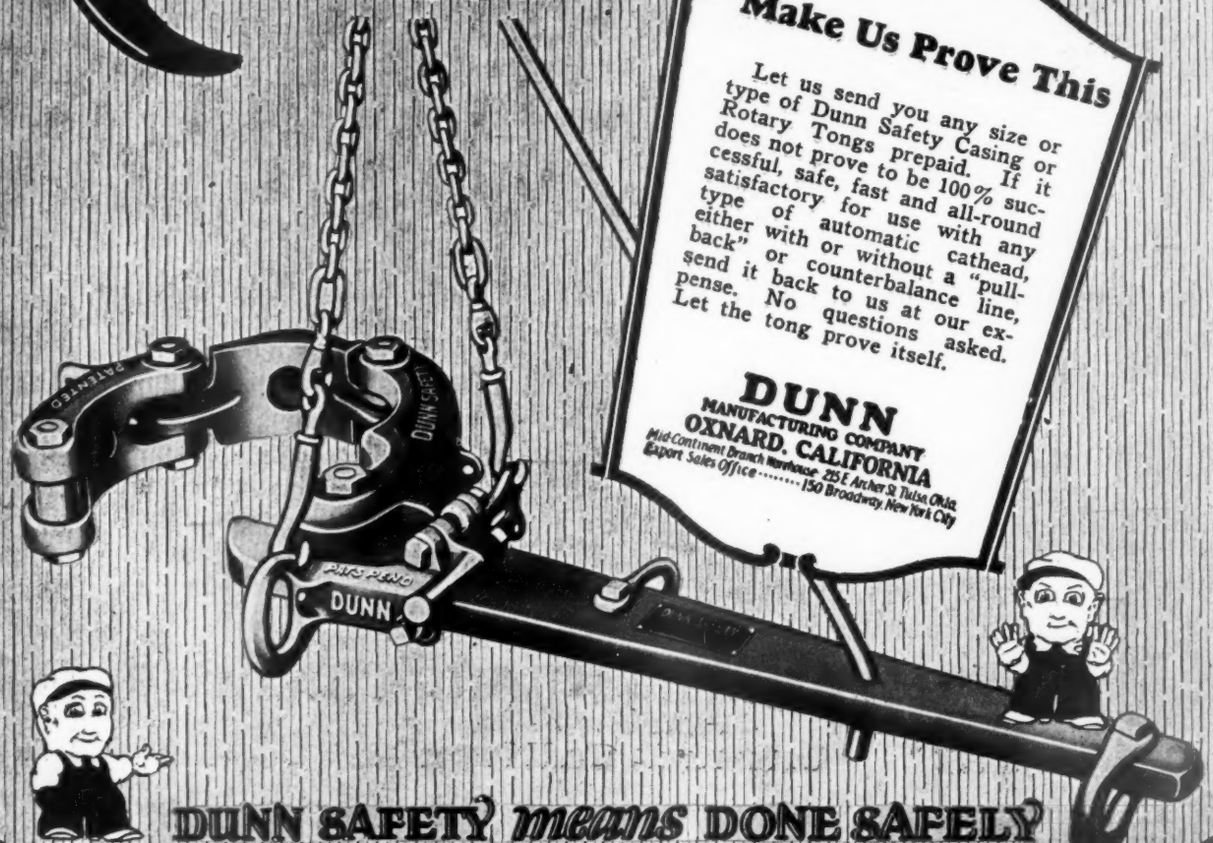

DUNN SAFETY *means* DONE SAFELY

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WILDCATS FROM ALL SECTIONS

ARKANSAS

Completion

OUACHITA COUNTY—
Marine Oil Co., Hayes 8, 4-16-15.. * 2274

BRADLEY COUNTY—Johnson & Adams' Southern Lbr. Co. 1, 12-12-12, sd 2204 ft.

COLUMBIA COUNTY — Mitchell et al's Franks 1, 25-19-22, sd 150 ft. Sunny Jim Oil Co.'s Runyan 1, 3-16-21, dr 2000 ft. Van Hagen Synd.'s Puckler 1, 19-19-22, sd 850 ft; Mason 1, 31-19-22, rig.

DREW COUNTY—McClintocks et al's Ogle 1, 35-13-3e, sd 2550 ft.

GRANT COUNTY—Jones et al's Meeks 1, 5-4-11, sd 1400 ft.

LAFAYETTE COUNTY — Keu-Saw Pet. Co.'s Kensaw 1, 31-19-24, dr 3250 ft.

LINCOLN COUNTY—Pine Prairie O. & G. Co.'s Carter 1, 33-10-6, sd 2176 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 2-13-31, sd 2941 ft.

MILLER COUNTY—Guess et al's Saunderson 1, 14-15-25, dr 1810 ft.

NEVADA COUNTY—Aines & Zinng's Womack B-1, 10-14-21, wosr 1215 ft. Fruen et al's Rhodes 1, 22-12-21, sd 1513 ft. McDonald et al's Pell 1, 9-15-22, dr 2225 ft. J. J. O'Brien's Haynie A-5, 56-14-20, wosr 1204 ft; Haynie B-1, 6-14-20, wosr 1218 ft; Haynie B-5, 1-14-21, plugged back to 1163 ft; Moss A-17, 1-14-21, rig.

OUACHITA COUNTY—Buffalo Oil Co.'s Culp 1, 22-15-19, sd 2075 ft. Brewer et al's Curry 1, 32-15-9, wosr 2201 ft. Copenhagen et al's Berg 3, 13-15-17, sd 2193 ft. A. T. Grayson's Reynolds 1, 21-14-17, sd 1756 ft. H. M. Harrel's Ponder A-1, 18-12-17, set 6⅝-inch at 1590 ft. Humble O. & R. Co.'s Murphy 4, 3-16-15, r 2603 ft. Magnolia Pet. Co.'s Stout B-1, 28-14-18, dr 3400 ft. Marine Oil Co.'s Hayes 5-A, 4-16-16, lcn. Phillips Pet. Co.'s Betty Joyce 19, 33-15-15, arr to whipstock cas 2650 ft. Standard Oil Co.'s Umsted 5, 32-15-15, arr to deepen 2663 ft; Goodwin B-1, 5-16-15, arr to deepen (depth unknown).

UNION COUNTY—C. H. Allison's Fitzgerald 10, 17-12-15, dr 1820 ft. Brown et al's Slaughter 1, 2-17-16, sd 2296 ft. Bondurant et al's Garner 1, 8-18-12, sd 2635 ft. Booth et al's Rowland 1, 8-17-11, coring 2966 ft. Garrett-Modisette Drilling Co.'s Gregory 1, 10-17-14, wosr 2765 ft. Gulf Ref. Co.'s Murphy 45, 4-16-15, dk. Grimes Bros.' Van Hook 9, 7-18-14, set 6-inch 2207 ft. Imperial O. & G. Co.'s Goodwin 1, 26-17-16, sd 3118 ft. E. M. Jones' Crain 2, 2-17-14, set 6⅝-inch 3010 ft; Crain 3, 2-17-14, dr 2370 ft; Crain 4, 2-17-14, dr 785 ft. W. R. Keever's Ezell 5, 12-17-15, dr 1105 ft. Keene & Wolfe's Murphy 6, 9-16-15, dk. Lion O. & R. Co.'s Horn 1, 17-17-13, coring 2760 ft; Leverette 1, 11-16-16, dr 20 ft; Murphy D-7, milling cas 2700 ft. Laurell O. & G. Co.'s Houston 1, 12-16-16, washing to bottom 2623 ft. Lyall et al's Stegall 1, 11-17-15, sd 47 ft. Magna Prod. Co.'s Dumas 1, 11-17-14, lcn; Townsend 1, 10-17-14, dk. Magnolia Pet. Co.'s Carroll 2, 1-17-14, sd 1500 ft; Laney 3, 8-16-16, dk; Laney 4, 8-16-16, dk; Wilson 7, 17-16-15, running sand pump 2400 ft; Murphy 8, 8-16-15, cemeneted back to 2440 ft. Mountz et al's Pratt 6, 8-18-15, recemented 6-inch 2146 ft. C. E. Murdock's Murphy 2, 17-16-15, arr to deepen 2470 ft. (Corrected depth). Murdock et al's Vestal 1, 17-16-15, sd 2561 ft. National Consolidated Pet. Corp.'s Fagg 1, 8-16-16, wosr 2643 ft. Natural Gas & Fuel Corp.'s Hill B-3, 5-16-15, lcn. J. J. O'Brien's Saxon 1, 16-16-16, sd 2658 ft. Ohio Oil Co.'s Crain 3, 1-17-14, wosr 2996 ft; Crain 4, 1-17-14, dk; Crain 5, 1-17-14, flowing 3056 ft; Crain 6, 1-17-15, dr 2892 ft; Crain 7, 1-17-14, dr 2305 ft; Goode 1, 2-17-14, dr 2281 ft; Goode 2, 1-17-14, dr 2535 ft; W. Pumphrey 1, 1-17-14, sd 3037 ft; R. Pumphrey 2, 2-17-14, dr 2675 ft; R. Pumphrey 3, 2-17-14, dr 2355 ft. Pitcher et al's Arkansas Timber Co. 1, 21-17-11, dr 1356 ft. Pitcher & White's Kinard 1, 17-19-15, dr 1510 ft. Rice et al's Newton 1, 13-17-16, sd 3183 ft. Rovenger Oil Corp.'s Harrel 4, 15-17-16, dk; Sun Oil Co.'s Hays 3, 3-16-15, sd 2275 ft. Standard Oil Co.'s Murphy 33, 4-16-15, sd 2585 ft. Wingfield et al's Greer 1, 15-19-13, sd 50 ft. Wood's Houston 1, 12-16-16, sd 2743 ft.

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas-casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

LOUISIANA

Completions

CADDO PARISH—
Ohio Oil Co., Thompson 1, 32-23-16. * 3197
CATAHOULA PARISH—
S. D. Hunter, Tensas 2, 21-9-7e..... * 3200
MOREHOUSE PARISH—
Keisker et al, Bonita 1, 10-23-9e..... * ....
RICHLAND PARISH—
Roxana Pet. Corp., Tensas 2, 1-14-5e * 2637
Standard Drlg. Co., Delta H. L. Co. 1, 22-16-7e . ..... * 3024

BIENVILLE PARISH—E. J. Forrest's Perritt 1, 11-17-6, r 2520 ft. Lake Bistineau Gas Co.'s State 1, 16-16-10, set 6-inch 2525 ft. Louisiana Pet. Co.'s Hayes 1, 18-16-15, r 2450 ft.

BOSSIER PARISH—Araknsas Natural Gas Co.'s Barnett 1, 17-23-12, dr 1920 ft. Autrey Oil Co.'s Snyder 4, 22-19-11, dr 300 ft. R. L. Crook's Larkin 9, 14-19-11, lcn. C. F. Davis et al's Simpson 5, 14-16-12, dr 400 ft. Doern et al's Bollinger 1, 9-22-11, coring 3275 ft. Hamiter et al's Hamiter 1, 10-23-13, sd 480 ft. Humble O. & R. Co.'s B. & W. 30, 15-19-11, dr 4708 ft. J. S. McCullough's Hodges 5, 25-16-12, dr 680 ft. Magnolia Pet. Co.'s G. W. Robberson 1, 26-23-12, set 8⅛-inch 3057 ft. O'Brien Bros.' Farrington 1, 21-23-12, set 8-inch 809 ft. Palmer Corp.'s Burke 1, 26-17-12, testing 1707 ft. R. O. Roy's Werner 1, 7-17-11, dk. Walker et al's Antrim 1, 28-23-12, coring 2632 ft. Woodley & Collins' L. & A. 3, 15-23-12, coring 3107 ft.

CADDO PARISH—Arkansas Natural Gas Co.'s Alexander 1, 20-16-15, set 10-inch 207 ft; Lane 1, 13-21-15, dr stem stuck 4090 ft. Bee Oil Co.'s Muslow 1, 29-20-15, dr 890 ft. Bussa & McGoldrick's Bickham 7, 28-21-15, wosr 1603 ft. J. W. Burton's Tr.'s Caldwell 8, 18-21-15, dk. Belchic & Laskey's Boyton et al 1, 11-18-16, set 10-inch 102 ft. W. D. Chew's Fee 7, 23-21-16, wosr 1868 ft; State 6, 34-21-16, dk. Dixie Oil Co.'s C. M. L. 9, 23-21-15, woosr 3909 ft; Clark 9, 14-21-15, dr 3821 ft; Robertshaw 90, 14-21-15, dr 3766 ft; Robertshaw 91, 14-21-15, dk; Robertshaw 92, 13-21-15, dr 2903 ft; Huckaby 1, 33-22-15, dr 583 ft; Huckaby 4, 11-21-15, coring 3628 ft. Ferguson et al's Abney 2, 7-17-16, set 6-inch 1932 ft. Gulf Ref. Co.'s Herndon 10, 15-21-15, wsor 3921 ft; Tyson 14, 14-21-15, swabbing 3939 ft. Greenwood Prod. Co.'s Cooper & Ellebre 1, 15-18-14, tested dry 2015 ft; Alexander 1, 27-18-16, set 6-inch 902 ft. Hayes Bros.' Spell 1, 15-21-15, tested sw 3911 ft; Spell 2, 15-21-15, sd 3092 ft. Magnolia Pet. Co.'s W. M. Bell 2, 6-17-16, dk; J. W. Furrh 1, 28-18-16, sd 1998 ft; J. Furrh 1, 32-18-16, coring 2580 ft; Dillon 18, 24-21-15, dk; Dillon 21, 23-21-15, lcn; Robertshaw 22, 23-21-15, cemented cavity 3304 ft; Hampton A-8, 15-21-15, dr 3576 ft. Ohio Oil Co.'s Smith 25, 12-21-15, dr 5585 ft. Palmer Corp.'s Sellington 1, 17-21-14, trying to set 4½-inch 4395 ft. Pittsburgh O. & D. Co.'s Herndon 1, 15-21-15, arr to deepen 3946 ft. Rogers & Jensen's Newton Smith 1, 22-20-16, set 6-inch 2180 ft. Shreveport Oil Corp.'s Muslow 2, 32-21-15, lcn; State 1, 23-21-16, dk; State 2, 27-21-15, sd 2400 ft. Simplex Oil Co.'s Thomas et al 3, 15-20-15, wosr 2355 ft; Thomas et al 4, 15-20-15, wosr 2208 ft. Standard Oil Co.'s Stiles 190, 27-21-16, sd 1948 ft; Stiles 191, 27-21-16, dk; Hart 16, 34-21-16, testing 1893 ft. Superior Oil Co.'s Youree 8, 26-20-15, set 6-inch 2254 ft. Standish Oil Co.'s Jolly 1, 22-22-15, cemented cavity 1048 ft. The Texas Co.'s C. M. L. 47, 23-21-15, sd 3657 ft; C. M. L. 50, 23-21-15, set 4&-inch 3852 ft; C. M. L. 51, 23-21-15, arr to test 3942 ft; Mabry 10, 15-21-15, wosr 3930 ft; Herndon 7, 14-21-15, dk; Herndon 8, 14-21-15, dr 2933 ft; Herndon 9, 14-21-15, dr 1872 ft; Herold 10, 14-21-15, set 6¼-inch 3850 ft; Raines 19, 15-21-15, dr 4150 ft; Noel B-13, 14-21-15, arr to deepen 3815 ft. Tubbs et al's Hines 1, 16-14-16, set 6-inch 2268 ft. Woodley Pet. Co.'s Knight B-5, 39-15-12, dr 1900 ft. Woodley & Collins's McVey A-1, 23-19-14, set 6¼-inch 2525 ft. Waterman Brick & Tile Co.'s Fee 1, 19-17-16, dr 2100 ft.

CALDWELL PARISH—Grayson Oil Co.'s Crockett 1, 6-12-14, sd 2692 ft.

CATAHOULA PARISH—Lochnager et al's Beazley 2, 26-9-6e, dr 3090 ft; McMillan 1, 29-8-6e, coring 3376 ft. Standard Oil Co.'s Tensas 1, 23-8-5e, sd 2557 ft.

CLAIBORNE PARISH—El Dorado Chief Oil Co.'s Jones 1, 8-20-6e, dk. Magnolia Pet. Co.'s Lee 1, 16-22-8, coring 4760 ft.

DE SOTO PARISH—American Controlled Oil Co.'s Lanier 2, 5-11-11, dr 2672 ft. J. H. Askew's Richardson 2, 25-13-11, set 6-inch 2477 ft; Richardson 3, 25-13-11, dr 950 ft. Carlton Drilling Co.'s Stevens 1, 12-11-16, dr 375 ft. Chal Daniels' Frost Johnson 1, 1-11-16, sd 100 ft. Dixie Oil Co.'s Jenkins 1, 9-12-11, dr 5892 ft. J. W. Downey's Dickson 1, 23-14-23, sd 1050 ft. Foster et al's Johnson 1, 7-10-12, dr 1625 ft. Hazlett-Simmon's Neely 2, 1-14-12, sd 600 ft. R. O. Roy's Lee 1, 33-14-13, dk; Whittaker 1, 4-13-13, rig Tracy 1, 3-13-13, dk. Reliance Drilling Co.'s Jones 1, 8-11-14, sd 2815 ft. Wingfield et al's Haygood 1, 18-10-12, sd 2400 ft.

FRANKLIN PARISH—Barbour Oil Co.'s Baker 1, 3-15-7e, sd 2884 ft. Pittsburgh O. & D. Co.'s Moore 3, 12-11-6e, sd 2227 ft. Louisiana Pet. Co.'s Tensas 1, 11-11-6e, sd 2503 ft.

GRANT PARISH—W. D. Ball et al's Calhoun 1, 4-7-4w, sd 2106 ft. Swope et al's Fee 3, 18-9-1e, sd 1607 ft; Fee 5, 18-9-1e, dk.

MADISON PARISH—W. S. Smith's Yerger 1, 1-16-4e, arr to deepen 1700 ft.

MOREHOUSE PARISH—Chas. Bennett's Davis 1, 21-20-4e, dk. Consolidated Pet. Co.'s Perry 1, 14-20-4e, dr 1065 ft. G. E. Jordan's Southern Carbon Co. 1, 14-20-4e, set 15½-inch 94 ft. R. O. Roy's Lee 1, 33-14-13, dk. The Texas Co.'s Meyers 1, 15-22-7e, rig. United Carbon Co.'s Atkins 1, 26-20-5e, dk.

NATCHITOCHES PARISH—Tate et al's Leopole 1, 4-10-10, lcn.

OUACHITA PARISH—J. M. Huber's Edwards 4, 1-18-4e, lcn. Imperial O. & G. Co.'s Tubbs 3, 13-19-3e, set 6-inch 2124 ft. Jordan Drilling Co.'s Slagle 1, 48-18-4e, dk. Ouachita Natural Gas Co.'s D'Arbonne 2-A, 34-19-3e, arr to test 2212 ft; Smith 7, 28-20-4e, dr 2093 ft. Palmer Corp.'s West Virginia T. Co. 3, 5-18-4e, set 8-inch 857 ft. United Carbon Co.'s Nelson Fee 2, 6-19-5e, dr 1438 ft. West Virginia O. & G. Co.'s Fee 5, 5-18-4e, set 6-inch 2138 ft.

RAPIDES PARISH—Collins Bros.' Allen 1, 25-5-1w, sd 1410 ft.

RICHLAND PARISH — Gulf Ref. Co.'s Wayne L. & T. Co. 2, 23-16-5e, sd 2453 ft; Millsap 1, 8-17-16e, set 9-inch 2311 ft; Rhymes 3, 38-17-16, lcn; Weymond 1, 20-18-6e, rig. Lousiana Pet. Co.'s Binion 1, 22-17-16, sd 2474 ft. Moody & Seagraves Osborne 1, 14-15-5e, set 6-inch 2292 ft; Noble 1, 36-16-5e, dr 2300 ft; Hatch 1, 34-16-15, rig; Hemler B-2, 6-15-6e, set 6-inch at 2283 ft; Hemler C-1, 29-16-6e, dr 620 ft; LaFlouer 1, 18-16-6e, rig; McDonald 1, 9-15-5e, dk. Natural Gas & Fuel Corp.'s Sortor-Phillips 1, 9-16-6e, rig; Sortor B-3, 9-16-6e, lcn; Sohtor B-4, 19-16-6e, lcn; Thompson A-1, 21-16-6r, lcn. Noel & Meredith Tr.'s Broughton 1, 4-15-6e, dk. Ouachita Nat. Gas Co.'s Cummings 1, 24-17-5e, set 12-inch 190 ft. Oliver & Master's Hatch 2, 2-15-5e, rig. Ruston Drlg. Co.'s Sortor 1, 17-16-6e, rig. Southern Carbon Co.'s Sortor 1, 20-16-6e, dr 2248 ft; Sortor 2, 20-16-6e, lcn; Sortor 3, 18-16-6e, dk. Stovall Drlg. Co.'s Dunning 1, 26-16-6e, dr 2168 ft. United Carbon Co.'s Mulhern 1, 20-16-6e, dk.

SABINE PARISH—Arkansas Fuel Oil Co.'s Logan A-1, 23-10-12, wosr 2300 ft, td 4258 ft; Logan 10, 32-10-12, sd 3980 ft. S. P. Borden Tr.'s Logan 1, 36-10-13, dr 2903 ft. Clark Seip et al's Moore 1, 32-10-12, dr 1905 ft. Dixie

Oil Co.'s Steinfield 1, 20-10-12, dr 2025 ft. Doern et al's Pickering Lbr. Co. 1, 17-4-11, dr 65 ft. L. M. Emlet's Bowman Hicks 6, 8-7-12, sd 3710 ft; Bowman Hicks 7, 11-7-14, dr 3584 ft; Mansfield H. L. Co. 1, 15-7-14, sd 475 ft.

UNION PARISH—Borbour Oil Co.'s Tugwell 1, 21-22-1e, sd 2080 ft. Carter et al's Security Trust 1, 7-23-1e, sd 2257 ft. Interstate Natural Gas Co.'s Parks 1, 32-20-3e, dk; Stephenson 1, 6-21-4e, lcn. Natural Gas Prod. Co.'s Waldrop 1, 7-21-3e, dk. Southern Carbon Co.'s Harris 1, 20-20-4e, dr 2154 ft. John Potts Agt's Bernstein 1, 30-20-4e, dk.

WEBSTER PARISH—Arkansas Natural Gas Co.'s North Central Texas 1, 36-23-10, fsh 1800 ft. Humble O. & R. Co.'s Gray 1, 26-21-10, dr 2961 ft; Babb 5, 14-21-10, dr 3390 ft. S. A. Lane's Miles 1, 24-17-9, sd 1469 ft. Magnolia Pet. Co.'s Camp 1, 36-23-10, lcn; Aarnes Cox 3, 22-21-10, dk; Mission 1, 22-22-10, dr 2397 ft; Cole 1, 27-21-10, dr 3687 ft; Munn 1, 29-23-9, dr 110 ft; J. L. Munn 1, 29-23-9, dk; D. G. Cox 1, 22-21-10, dr 2935 ft; Roseberry 1, 29-23-9, dr 2205 ft. Northwest Louisiana Gas Co.'s Munn 1, 36-23-10, fsh 2712 ft. Ohio Oil Co.'s Crichton 1, 21-21-10, rig; Bodcaw 38, 15-21-10, rig.

WINN PARISH—Ohio Oil Co.'s Rolen Account 1, 5-12-1w, dr 3135 ft. H. M. Roark's Southern Mineral Co. 3, 19-11-3w, dr 645 ft.

WEST CARROLL PARISH—Palmer Corp.'s White 1, 2-19-10, tested 2475 ft.

MOUNTAIN STATES

NEW MEXICO

CHAVES—Gibson Oil Corp., Forsyth 1, 8-11-23, sd at 675 ft. Buffalo-Roswell, 1, 24-11-27, sd 4300 ft. Arean Oil Co., 1, 18-13-31e, standing at 835 ft. McQuigg Bros., Neis 1, 7-5w,29e, gas showing at 1525 ft.

CURRY—Hasson Pet. Co., Laird 1, 22-8-36, spd and sd. Clovis O&G Co., Hoskinson 1, 21-3n-36, dr 3760 ft in lime, showing oil.

GUADALUPE—Hanchett Oil Co., Rutherford 1, 23-8-24, bottomed at 4300 ft. Union Pet. Co., McMullen 1, 24-5n-16, installing heavy equipment, td 235 ft. Navajo Oil Co., Goard 1, 10-31-7, standing at 2538 ft.

LEA—Midwest Ref. Co., State 1, 9-19s-38e, dr 1150 ft.

McKINLEY—Smart & Reid, 7-17-9, rig. Inland Oil Corp., 22-18-10, dr 820 ft. S. Dysart 1, 21-14-9, dr 1560 ft. Continental Oil Co., Carrica 1, sw 9-17n-7w, dr 2840 ft. Jenkins Oil Co., 1, 1-16n-9w, sd 1200 ft. Williams et al, 2, 30-18n-8w, standing with hole full of water at 860 ft. Reliance Oil Co., Valentine 1, 16-17-9, standing 1070 ft. Producers & Refiners Corp., 1, 12-17-9, abnd.

QUAY—Gibson Oil Corp., 1, 25-8-32, oprns to be resumed at 3500 ft. Ohio Oil Co., Jordan Ridge 1, 24-7-29, dr 4800 ft.

SAN JUAN—Continental Oil Co., Munoz 17, 2-29-19, dr 4030 ft. Kansas-Colorado Oil Co., Atterberry 1, 23-31-11, fsh tools at 1850 ft. T. C. N. Oil Co., Lanier 1, 9-29-11, sd 547 ft. Huntington Park Oil Co., 2, 29-30-9, dr 4163 ft. R. N. Smith, Abrams 2, 23-29-11, standing 532 ft. Huerfano Oil Co., Wiltbank 1, 25-29-11, standing 800 ft. Union Oil & Mining Co., Pine 2, 8-29-9, fsh, td 2950 ft. San Juan Pet. Corp., 1, 9-29n-13w, dr 945 ft. A. Johnson, Trustee, 1, 34-29n-11w, dr 400 ft.

SOCORRO—Abo Oil Co., 1A, 14-3s-6e, set 12½-in at 600 ft and sd.

TORRANCE—Duran Dome Oil Co., 1, 31-2-14, sd 1500 ft. F. G. Wilson, Trustee, Pace 1, 12-6n-27, standing 2215 ft. Bluhall O&G Co., 20-6n-10e, dr 667 ft. San Juan Pet., Randall 2, 26-6n-10e, dr 4934 ft;Minerman 1, 31-7-10, pull cas, td 2650 ft.

VALENCIA—Acme Oil Co., 26-6-3, dr 2200 ft. Stone et al, 25-7-2, sd 1967 ft, financial difficulties.

WILDCATS—

COLORADO

ARCHULETA—Kansas-Colorado Oil Co.'s 17-34-2w, will resume at 1300 ft.

BACA—Phillips-Jones' Jones 1, 26-34s-18w, sd 1745 ft.

BOULDER—Left Hand Oil Co.'s Precht 1, 34-3n-70, run 3-in to 1998 ft. Essok Oil Co's Martin 1, 5-1s-70, undrr to 5225 ft. Repollo Oil Co.'s Nichols 1, 32-1n-70w, dr 4860 ft.

EL PASO—Grand Union Oil Co.'s John Jr. 2, 19-17s-67w, dr 775 ft.

FREMONT—Fremont Leasing & Holding Co.'s 1, 2-19-70, fsh. Columbis Oil Co.'s Sheridan 1, 20-18-70, sd at 2240 ft.

HUERFANO—Kinney-Coastal Oil Co.'s Pino 1, 24-26s-68w, spd 30 ft.

JACKSON—North Park Oil Co.'s Goettler 1, 9-6n-82w, standing 506 ft.

LAS ANIMAS—Parker Club, Inc., Adams 1, 32-34-55, dr 3817 ft. Foley & Goldsworthy's Government 1, 11-30-60, standing 2010 ft. Mtn. States Gasoline Corp.'s Sandoval 4, completed as a gasser at 1532 ft. Reiter-Foster & Phillips Pet., 23-29s-56, spd at 30 ft. Model Dome Synd.'s Government 1, 11-30s-60w, standing 2010 ft.

LA PLATA—East Long Beach Oil Co.'s Aspaas 1, 10-34n-11w, set 10-in at 902 ft. Detroit Oil Ass'n's Olbert 1, 9-35-12w, sd at 1375 ft.

LARIMER—Five Square O. & G. Co.'s State 1, 16-4n-69w, dr 305 ft.

LOGAN—Northeastern Colorado Oil Co.'s State 1, 36-8n-55w, dr 5487 ft.

MOFFAT—Ohio Oil Co.'s Kuykendall 1, 22-21n-11w, sd for winter. Reiter-Foster Oil Co.'s State 1, 16-12-100, td 2160 ft. Yark Producing & Refining Co.'s No. 205, 26-4n-92w, dr 2710 ft. I. L. Keith's Milliken 1, 14-4n-92w, spd and sd.

MONTEZUMA—Coon & Cotton's Hall 1, 9-35n-13w, cleaning out at 1240 ft.

MONTROSE—Indian Pet. Corp.'s Gilmore 1, 4-45-16w, dr 4190 ft.

MONTANA

BIG HORN—Selig Oil Co.'s 1, se 21-6s-35, dr 3350 ft. Book et al's Moore 1, 13-17-23, bottomed 850 ft. Atlantic Oil Co.'s 3, 20-7s-24e, casing cemented at 948 ft.

CASCADE—Lone Star's McLean 1, 12-21n-3e, sd 100 ft.

CHOTEAU—Geraldine O. & G. Co., sw ne 1-21-11e, rigged ready to sp.

FERGUS—Melton Corporation's Fenholt 1, 24-21-17, dr below 2230 ft. Mineral Research Co.'s 1, 13-17-23e, sd 843 ft for winter.

FLATHEAD—Flathead Petroleum Co.'s Reservation 1, se 35-23-22w, rig.

GLACIER—Rimrock Oil Co., 29-35-5w, rig.

HILL—A. H. McFarland, sw 15-30-13e, sd 100 ft. Gad-Hamilton et al's Goldstone 1, sw 25-35-9e, rig. Equitable Oil Co.'s Perkins 1, 34-33-12e, bottomed at 3330 ft.

LIBERTY—Chester Oils Inc.'s Laird 1, 31-37n-6e, bottomed at 2020 ft. Sunburst O. & G. Co.'s Disotell 1, 10-37-5e, bottomed at 2400 ft.

MADISON—Madison County Oil Co.'s 1, ne 17-7s-1w, sd 1700 ft.

MUSSELSHELL—Manhattan Oil Co.'s ne 24-7-24e, sd 60 ft. McElwain Oil Dev. Ass'n., 2-11-22, rig.

RICHLAND—Community Drill. Co.'s Pioneer 1, rigging to drill deeper from 2600 ft.

ROOSEVELT—Pioneer O. & G. Co.'s 1, se 35-27-51e, sd 1590 ft.

PONDERA—S. C. Ferdig et al, 8-27-4w, rig. Continental Dev. Co., sw 19-27-3w, fsh 1000 ft.

PHILLIPS—Big Dome Oil Co.'s Bloomberg 1, ne 1-32-32e, set 12-in at 520 ft.

SWEETGRASS—Shoshone Consolidated, nw 23-2n-15w, casing trouble at 2100 ft.

TETON—Dilling et al, ne 9-25-1e, fsh at 1408 ft. Continental Dev. Co.'s Ritmoure 1, 8-27-5w, bottomed at 900 ft. Craig-Speer-McCutcheon, 9-23-2w, spd and sd, bad weather.

TOOLE—Kevin-Flathead Oil Co.'s 1, ne 27-36n-2e, sd 2200 ft. Zenith-McDonald's Lowey 1, 35-36n-1w, bottomed at 2135 ft. Sunburst O. & G. Co.'s Grandview 1, 10-34-32, rig. Madeline Oil Co.'s Swenson 1, 33-35-4w, bottomed at 550 ft.

RIO BLANCO—Texas Production Co.'s Freeman 1, 27-3-94, dr 5225 ft. Argo Oil Co., sw 9-2s-96w, rigging.

ROUTT—Great Western Oil Co.'s State 1, 17-60n-56w, undrr to 1710 ft.

SAGUACHE—Cook, Weber et al, State 1, 27-41n-10e, abd at 4300 ft.

WELD—Platte Valley Pet. Corp.'s Patterson 1, 24-6n-61w, standing 3525 ft.

WYOMING

BIG HORN—Agate Oil Co., ne 13-51-92, testing, will probably abandon. Utah Southern Oil Co.'s 3, 29-56n-97w, sr at 2345 ft. Wisconsin-Himes, 9-54-94w, contract completed to 571 ft.

CARBON—Graybeal Syndicate, 16-28-91, sd 4380 ft. Pacific-American, 31-25-91, lcn.

CONVERSE—A. E. Tylee, ne 8-32-72, sd. Criterion Oil Co.'s Irvine 1, 5-31-70, coring Sundance at 3581 ft. John Ackard's McKinley 1, 21-31-69, sd for winter at 3000 ft.

FREMONT—Producers & Refiners' Muskrat 1, 34-34-92, dr 1840 ft. Texas Production Co.'s Alkali Butte 1, 1-32-92, dr below 1225 ft. Zola Oil Co.'s Crook's Gap 1, 25-27n-93w, sd 3750 ft for winter. Iowa-Wyoming Inv. Co., 30-1s-2e, attempting water shut-o¾ at 1500 ft.

JOHNSON—Fairway Oil Co.'s Crazy Woman 1, 7-47-82, no report. Tarrant Syndicate's 2, 17-46n-82w, undrr at 3625 ft. Murphy & Grove', 10-41n-80w, sd 800 ft, hole full of water.

LINCOLN—Fontenelle Oil Co.'s 1, ne ne 1-24n-113w, dr below 1125 ft. California Co.'s Snyder Basin 1, 11-29n-115w, standing cemented at 1117 ft.

NATRONA—North Casper Creek O. & G. Co., se 1-36-82, sd. Combs Inv. Co., 12-39-78, dr below 500 ft.

NIOBRARA—Penn-West Pet. Co., 13-35n-62w, will resume in the spring, td 800 ft. Hollingsworth Bros., 17-39-79, fsh tools at 1710 ft.

PARK—Union of California's Taylor 1, 22-47-101, dr 3314 ft. Fred G. Ostland's Hoodoo Ranch 1, 23-51-101, sd 1740 ft. Honolulu Oil Corp.'s Four Bear 1, 29-48-103, fsh 2846 ft. Ralph Arnold & Chas. Mau, nw 25-58n-98w, dr. Ydoc Oil Co., ne 6-51n-101w, dr 900 ft. Honolulu Oil Corp.'s Pitchfork 1, 14-48n-102w, lcn. Hoodoo Oil Co., 36-51-101, dr 155 ft, bad hole.

PLATTE—Walter Adams, Trustee, Sec 13-25-66, dr 1700 ft.

SWEETWATER—Boar's Tusk Oil Co., 16-23-104, artesian water at 1450 ft. Prairie Oil & Gas Co., Tucker 1, 18-13-99, sd at 150 ft. P. & R.-Marland of Colo., 26-20-104, sd 485 ft. Tower Pet. Co.'s 1, 6-14n-103w, dr 400 ft.

WASHAKIE—P. & R. Corp.'s Tensleep 1, 13-46-89, dr ahead from 3330 ft.

WESTON—Unnamed persons, ne 15-44-64, dr below 300 ft. Gose Synd.'s 1, ne 28-47n-65w, attempting to pull 4¾-in at 485 ft.

UINTA—Uinta Oil & Dev. Co., 21-15n-120w, set 10-in at 1300 ft.

OKLAHOMA

T 28n, R 3w, Grant County — Sec 6, Otstot Dev. Co.'s Snyder 1, ne c, sd 4518 ft.

T 27n, R 21w, Harper County—Sec 24, A. F. Koplan Oil Co.'s Selman 1, ne c se, spd and sd.

T 27n, R 15w, Woods County—Sec 20, Sooner State Oil Co. & E. R. Black's Marcum 1, c sw spd and sd.

T 27n, R 5w, Grant County—Sec 18, J. W. Bailey et al, Custard 1, c se, sd 4605 ft.

T 27n, R 1e, Kay County—Sec 8, Mathews et al's Buessing 1, nw c, cellar.

T 27n, R 1e, Kay County—Sec 28, Hazel, Atlas Glass Co.'s Vickery 2, nw c se se nw, lcn.

T 26n, R 4w, Grant County—Sec 34, Sooner State Oil Co.'s Royce 1, sw c nw, sd 550 ft.

T 26n, R 2e, Kay County—Sec 32, J. A. Vincent et al, McNeal 1, nw c ne, sd 2795 ft.

T 25n, R 22w, Harper Coounty—Sec 14, Hoffer Oil Co.'s Cooper 1, nw c se, sd 4182 ft.

T 25n, R 4w, Grant County—Sec 22, Cowden et al's Vallner 2, ne c se ne sw, dr 5605 ft.

T 25n, R 1w, Kay County—Sec 15, Tonkawa Dev. Co.'s McDaniels 1, se c, ¶1 at 3980-88 ft, 200 oih, td 4198 ft, to run 5-in cas.

T 25n, R 1e, Kay County — Sec 10, Miller Bros.'s Anderson 1, nw c se, hfw 2565-90 ft, dr 3942 ft.

T 21n, R 1w, Noble—Sec 7, R. L. Corley's Williams 1, se c ne sw, sd 1920 ft.

Oklahoma Panhandle

T 6n, R 2e, Cimarron County—Sec 24, J. G. Phillips School Land 1, nw c, ur 6-in 3950 ft.

T 5n, R 2e, Cimmaron County—Sec 22, Sinclair O&G Co.'s School Land 1, nw c, sd 4535 ft.

T 5n, R 5e, Cimarron County—Sec 27, Ramsey Brothers State 1, c nw ne, top 4265 ft, show 35 bbls, shot 30 qts 4090-4140 ft, td 4681 ft, pb to 4090-4140 ft.

T 5n, R 6e, Cimarron County—Sec 4, Ramsey Pet. Co.'s School Land 1, se c, sd 4265 ft.

T 4n, R 1e, Cimarron County—Sec 34, Ramsey School Land 1, c se, dr 2366 ft.

T 4n, R 25e, Beaver County—Sec 22, O. H. Bonner et al's Maple 1, c se ne, rig.

T 2n, R 9e, Cimarron County—Sec 2, Fenton, Brookins & Flowers Smaltz 1, sw c ne ne, spd and sd.

T 2n, R 18e, Texas County—Sec 23, Connelly, Trammell & Danner's Graves 1, ne c sw sw, sd 315 ft.

Say you saw it in The OIL WEEKLY

T 1n, R 15e, Texas County—Sec 26, Hydraulic Oil Co.'s Hitch 1, ne c, sd 600 ft.
T 1n, R 19e, Texas County—Sec 11, Trammell, Connelly & Danner's Tansey 1, se c nw, sd 280 ft.
T 1n, R 19e, Texas County—Sec 11, Three Way Oil Co.'s Price 1, se c nw, show gas 2560-2620 ft, sd 3005 ft.
T 24n, R 17w, Woodward County—Sec 32, Otstot Dev. Co.'s Simmson 1, se c sd 1500 ft.
T 24n, R 6w, Garfield County—Sec 9, Pulse & Beamer's White 1, se c nw, sd 4720 ft, wtr.
T 24n, R 3w, Garfield County—Sec 14, Sagar Oil Co.'s Garsarch 1, se c, dr 3320 ft.
T 23n, R 16w, Major County—Sec 4, Henry Landon's Parker 1, ne c nw, sd 1150 ft.
T 22n, R 5w, Garfield County—Sec 3, Ashby & Barr's Swinery 1, nw c, sd 740 ft.
T 21n, R 25 w, Ellis County—Sec 9, Oklahoma Northern Oil Co.'s 1, c se nw, cas stuck 300 ft.
T 21n, R 21w, Woodward County — Sec 25, Sharon et al's Elmore 1, sw c, sd 2778 ft.
T 21n, R 5w, Garfield County—Sec 31, A. E. Summers' Vanderwork 1, ne c nw, plugged and abnd.
T 21n, R 4w, Garfield County—Sec 12, Beopple et al's Schriver 1, c e l sw sw ne, sd 1850 ft.
T 20n, R 5w, Garfield County—Sec 2, Sinclair O&G Co.'s Fee 1, sw c ne, plugging 6254 ft.
T 20n, R 4w, Garfield County—Sec 9, Marland Oil Co.'s Looman 1, ne c se, dr 5692 ft.
T 20n, R 4w, Garfield County—Sec 12, Marland Oil Co.'s Miller 1, sw c, sd 4586 ft.
T 19n, R 4w, Logan County—Sec 8, Champlin Ref Co.'s Musgrove 1, se c sw, dr 3560 ft.
Sec 33, Bryan & Emery's 1, nw c se, sd 4504 ft.
T 18n, R 15w, Dewey County—Sec 9, Huckelby & McCoy's Perfect 1, ne c se, 3274 ft.
T 18n, R 4w, Logan County—Sec 11, Welch, Acton & Brown's Hall 1, ne c se, sand 4748-59, swab 130 bbls, co 4865 ft.
T 18n, R 3w, Logan County—Sec 33, Haley & Pioneer Pet. Co.'s Quier 1, se c sw, dr by cas 3690 ft.
T 17n, R 1e, Logan County—Sec 20, T. B. Slick's Signs 1, nw c sw, sd 5067 ft.
T 17n, R 1e, Logan County—Sec 28, T. B. Slick's Berry 1, sw c se, sand 4658-61 ft, 2800 ft oih, rep rig 5330 ft.
T 16n, R 7w, Kingfisher County—Sec 6, Pet. Eng. Core Drlg. Co.'s Campbell 1, c nw se, rig.
T 16n, R 5w, Kingfisher County—Sec 26, Galt Brown Oil Co.'s Johnson 1, c nw, dr 4115 ft.
T 16n, R 1w, Logan County—Sec 28, Blackford O&G Co.'s Lair 1, c s l n½ se, sd 1675 ft.
T 15n, R 1w, Logan County—Sec 12, Bu Vi Bar Pet. Co.'s Kirkpatrick 1, c sw, dr 4150 ft.
T 14n, R 6w, Canadian County—Sec 9, A. D. Spears' Piatt 1, se c ne, sd 3223 ft.
T 13n, R 10w, Oklahoma County—Sec 18, Carroll Oil Corp.'s North 1, ne c, sd, 1500 ft.
T 13n, R 3w, Oklahoma County—Sec 18, Carroll Oil Corp.'s North 1, ne c, sd 1500 ft.
T 13n, R 3w, Oklahoma — Sec 18, Slick & Bailey's Lufkin 1, c ne se, td 3750 ft, r u s t.
T 12n, R 3w, Oklahoma County—Sec 15, Cromwell O&G Co.'s Thompson 1, sw c ne ne, fsh drill pipe 6705 ft.
T 10n, R 6w, Canadian County—Sec 1, J. V. Bailey's Robinson 1, c ne nw, spd and sd.
T 27n, R 9e, Osage County—Sec 7, C. B. Peters 1, ne c se, dr 2500 ft.
T 26n, R 8e, Osage County—Sec 13, Stephenson, Henry & Rock's 1, sw c nw sw, rig.
T 25n, R 7e, Osage County—Sec 8, I. T. I. O. Co.'s 1, se c ne, r o g. Sec 22, Geo. Parker's 1, c s l ne, td 2680 ft, D&A.
T 23n, R 10e, Osage County—Sec 7, Sheeders O&G Co.'s 1, c se, 2300 tt, tools in hole, fsh.
T 21n, R 6e, Pawnee County—Sec 16, F. R. Billingslea & 101 Ranch Oil Co.'s School Land 2, nw c ne se, dr 3433 ft.
T 18n, R 3e, Payne County—Sec 32, Garber, Pulse & Gloyd's Widows 1, ne c se nw, sd 1200 ft.
T 17n, R 3e, Lincoln County—Sec 20, Willis O&G Co.'s Gunn 1, nw c se, td 4677 ft, water, sd.
T 14n, R 7e, Creek County—Sec 16, Bu Vi Bar Pet. Co.'s Nero 1, c se ne, sd 950 ft.
T 13n, R 4e, Lincoln County—Sec 16, Bu Vi Bar Pet. Co.'s School Land 1, c se ne, sd 4500 ft.
T 12n, R 6e, Okfuskee County—Sec 34, Transcontinental Oil Co.'s Knight 1, nw c ne nw, hfw 2840-70 ft, dr 3675 ft.
T 19n, R 10e, Tulsa County—Sec 24, Holmes et al's Ragen 1, nw c ne, se, dr 2160 ft.
T 17n, R 13e, Tulsa County—Sec 1, E. A. Hawley's Taylor 1, se c ne, spd and sd.
T 15n, R 9e, Creek County—Sec 33, C. G. Tibbens' Marshall 1, sw c se sw, machine.
T 14n, R 9e, Creek County—Sec 1, L. C. Wheeler & King's Morton 1, se c nw, lcn.
T 14n, R 11e, Okmulgee County — Sec 19, White Eagle O&R Co.'s Bugg 2, nw c ne se, Wilcox 3075-88 ft, hfw, sd.
T 13n, R 9e, Okfuskee County—Sec 21, Barnsdall Oil Corp.'s Self 1, sw c se ne, sd 3274 ft.
T 12n, R 10e, Okfuskee County—Sec 8, Blakely et al's Yarhola 1, sw c se nw, fsh 3157 ft.
T 11n, R 10e, Okfuskee County—Sec 4, Moose & Daniels' Stidham 1, sw c nw, sd 622 ft.
T 19n, R 15e, Wagoner County—Sec 11, J. H. Winters' Lynch 1, sw c nw nw, sd 1140 ft.
T 15n, R 18e, Muskogee County—Sec 12, C. F. Finefield Jobe 1, nw c se, sd 1252 ft.
T 11n, R 13e, Okmulgee County—Sec 27, G. N. Buzzard et al's Thompson 1, nw c ne ne, dr 2885 ft.
T 13n, R 17e, Muskogee County—Sec 34, Elk Dr. Co.'s McKee 1, c s l se se se, sd 160 ft.
T 13n, R 19e, Muskogee County—Sec 4, W. R. Sommerville's Carver 1, ne c se, ¶2 898-912 ft, show oil 1495-1513 ft, sd 1620 ft.
T 9n, R 16e, Pittsburg County—Sec 32, Pattison et al's Smith 1, ne c sw se, dr 3707 ft.
T 9n, R 18e, Haskell County—Sec 10, Marion Oil Co.'s Sanders 1, nw c ne sw, sd 2200 ft.
T 5n, R 18e, Latimer County—Sec 15, Limestone O&G Co.'s Murray 1, swc, sd 1505 ft.
T 11n, R 2e, Pottawatomie County — Sec 22, Wilcox O&G Co.'s Hollis 1, sw c, hfw 5253 ft, sd. Sec 32, Wilcox O&G Co.'s Pickard 1, se c sw, dr 4240 ft.
T 10n, R 2w, Cleveland County—Sec 22, Cromwell & Franklin's Donovan 1, c sw, sd 4706 ft.
T 10n, R 3e, Pottawatomie County — Sec 12, Sikes, Kilgore & Shaffer O&R Co.'s Ives 1, c se se, dr 4290 ft.
T 10n, R 4e, Pottawatomie County — Sec 28, Central National Oil Co.'s Toney 1, sw c, dr 3980 ft.
T 10n, R 5e, Pottawatomie County — Sec 16, Clark, Edwards et al's School Land 1, ne c sw, hfw 4022-50 ft, td 4631 ft, sd.
T 10n, R 7e, Seminole County—Sec 21, Gypsy Oil Co.'s Soloman 1, se c ne, ts 3730 ft, td 3734 ft, pinched in to 50 bbls, comp.
T 9n, R 1w, Cleveland County—Sec 7, Galt Brown Oil Co.'s Alexander 1, c nw, hfw 4212-80 ft, td 4502 ft, sp.
T 9n, R 7e, Seminole County—Sec 15, Pure Oil Co.'s Jonah 1, nw c ne, ts 3492 ft, 10 bbls oil, td 3516 ft, pb 3510 ft, sd.
T 8n, R 2e, Pottawatomie County—Sec 24, Superior Oil Corp.'s Jones 1, sw c nw ne, ur 6-in, td 4040 ft.
T 8, R 5e, Pottawatomie County—Sec 16, I. T. I. O. Co.'s School Land 1, se c sw, sd 4096 ft.
T 7n, R 1w, Cleveland County—Sec 15, Sooner Oil Co.'s Vandeer 1, ne c nw sw, cmtd 8-in, sd 2995 ft.
T 7n, R 6e, Seminole County—Sec 7, Simon & Beam's Palmer 1, ne c nw ne, rig. Sec 13, Snowden & McSweeney's Tiger 1, nw c, ts and td 4315 ft, flowed 250 bbls.
T 7e, R 7e, Seminole County — Sec 5, Mid-Cont. Pet. Corp.'s Smith 1, nw c ne, top Wilcox 4443 ft, td 4444 ft, est 60 bbls per hour, shut in. Sec 32, I. T. I. O. Co.'s Marshall 1, nw c sw, fsh 4235 ft.
T 7n, R 8e, Hughes County—Sec 21, Jarvis & Holmes' Street 1, nw c se nw, dr 3595 ft.
T 6n, R 2e, Pottawatomie County—Sec 10, Davis, Detrick et al's McGahey 1, se c nw, sd 4988 ft.
T 6n, R 6e, Seminole County—Sec 1, T. B. Slick's Moore 1, sw c ne sw, 2408-42 ft, 900 ft oih, td 2460 ft, shot 8 qts, co.
T 6n, R 7e, Seminole County—Sec 5, Magnolia Pet. Co.'s Vierson 1, se c nw, fsh 3315 ft.
T 6n, R 8e, Seminole County—Sec 18, Carter Oil Co.'s Phillips 1, nw c ne nw, owd, td 3936 ft, ½ bailer per hr, fsh.
T 5n, R 9e, Hughes County—Sec 20, Noble O&G Co. et al's Wicket 1, se c, sd 285 ft.
T 9n, R 5w, Grady County—Sec 13, Remington et al's Fulton 1, sw c ne, sd 720 ft.
T 8n, R 23w, Beckham County Sec 5, Prince Bros. Martin & Atlantic 1, c sw nw, dr 2631 ft.
T 7n, R 22, W. Greer County—Sec 16, Magnolia's Chiney 1, ne c, run 8-in 3030 ft.
T 7n, R 5w, Grady County—Sec 13, Bedman et al's Kemp 1, c sw ne, sd 2400 ft.
T 6n, R 10w, Caddo County—Sec 22, English Dr Co.'s Jacobs 1, nw c se, dr 3514 ft.
T 6n, R 12w, Caddo County—Sec 29, W. J. Hartley's Gilbreath 1, se c nw se, owd, sd 3394 ft.
T 5n, R 7w, Grady County—Sec 7, Nichols & Page's Drake 1, c e l se, sd 1900 ft.
T 2n, R 10w, Comanche County—Sec 10, Danciger O&R Co.'s Skitler 1, ne c se, pipe trouble 2019 ft.
T 1s, R 5w, Stephens County—Sec 8, Magnolia's Parker 1, nw c ne sw, dr 3670 ft.
T 2s, R 16w, Kiowa County—Sec 6, Landfair et al's 1, sec sw se, sd 2263 ft.
T 5n, R 4e, Pontotoc County—Sec 12, Gillespie et al's Fleming 1, sw c se, swab 50 bbls 2043-54 ft, 25 bbls at 2556-57 ft. hfw, in Wilcox 2838-52 ft, pb 2550 ft, sd.
T 5n, R 7e, Pontotoc County—Sec 36, Shaffer O&R Co.'s Gilcrease 1, nw c ne, gas 2280-2310 ft' td 2340 ft, flowing 150 bbls per day.
T 5n, R 9e, Hughes County—Sec 20, Noble O&G Co.'s Wicket 1, se c, sd 285 ft.
T 4n, R 1e, Garvin County—Sec 15, Dixie Oil Co.'s Perkins 1, se c nw, dr 4175 ft.
T 4n, R 3e, Garvin County—Sec 10, Garland Oil Co.'s Strickland 1, sw c nw, sw, ur 8-in 2650 ft.
T 4n, R 4e, Pontotoc County—Sec 10, Marland Oil Co.'s Lawrence 1, c sw se, co 945 ft.
T 4n, R 6e, Pontotoc County—Sec 35, Bowles et al's Rayborn 1, sw c se, sd 1320 ft.
T 4n, R 7e, Pontotoc County—Sec 14, Henry et al's Johnson 1 ne c sw, sd 1090 ft. Sec 25, Ada Cement Co.'s Potter 1, nw c, dr 1042 ft.
T 3n, R 1e, Garvin County—Sec 12, Magnolia Pet. Co.'s Vaughn 1, nw c sw nw, dr 4450 ft.
T 1n, R 2e, Murray County—Sec 17, Revels & McGee's M. Wolfe 1, nw c sd, 125 ft.
T 1n, R 8e, Coal County—Sec 35, W. E. McGraw et al's Patton 1, sw c se ne, sd 935 ft.
T 1s, R 2e, Murray County—Sec 27, Thompson Oil Corp.'s Freeman 1, se c, rig abnd.
T 4s, R 2w, Carter County—Sec 13, Roxana Pet. Corp.'s Sarasota 1, se c, dr 2350 ft.
T 5s, R 3w, Carter County—Sec 2, Roxana's Frazier 1, sw c ne, 3445 ft, dry and abnd.
T 5s, R 4e, Marshall County—Sec 11, Bilbo et al's Chapman 1, ne c nw ne, sd 380 ft.
T 5s, R 7e, Bryan County—Sec 26, Magnolia's Marshall 1, nw c sw nw, dr 2185 ft.
T 7s, R 3e, Love County—Sec 7, Magnolia Pet. Co.'s Askew 1, nw c sw ne, dr 2825 ft.

KANSAS

BARBER COUNTY—T 30s, R 14w, Rowland et al's Pickens 1, owd, ne c nw ne, sec 27, dr 2600 ft. T 21s, R 12w, Merriman et al's Winters 1, c e½ sec 17, dr 3015 ft. T 33s, R 12w, Schaffer et al's Boggs 1, c sw, sec 19, dr 3835 ft. T 33s, R 13w, Schaffer et al's Carter 1, c se se, sec 2, dr 3270 ft.

BARTON COUNTY—T 19s, R 11w, Huffine et al's Smith 1, ne c se ne, sec 17, sd 5090 ft. T 20s, R 13w, Everett & Wiley's Ward 1, nw c sw, sec 12, sd 3940 ft.

BUTLER COUNTY—T 25s, R 4e, Wichita Drlg. Co.'s Joseph 1, ne c se nw, sec 18, fsh 2265 ft. T 27s, R 3e La Rob Oil Co.'s Baysinger 1, ne c sw, sec 24, rig. T 27s, R 5e, Cress, Frank et al's Bryson 1, ne c, sec 26, spd and sd. T 29s, R 4e, E. Wilcox et al's Holcomb 1, ne c se nw, sec 21, sd 1456 ft.

CHASE COUNTY—T 21s, R 7e, Greener, Fowler et al's Carson 1, ne c, sec 9, sd 750 ft.

CHAUTAUQUA COUNTY—T 32s, R 8e, Roth & Faurot's Hamil 1, nw c sw nw, sec 15, lcn.

CLARK COUNTY—T 31s R 23w, Walker & Walner, Mitchell 1, sw c ne, sec 16, sd 420 ft.

CLOUD COUNTY—T 6e, R 4w, Concordia Oil Co.'s Murdock 1, se c sec 6, sd 3590 ft.

COFFEY COUNTY—T 22s, R 15e, Garland et al's Goff 1, se c sw se, sec 9, lcn. Crooks et al's Douglas 1, ne c se, sec 11, sd 450 ft.

COWLEY COUNTY—T 30 s, R 3e, Vickers Pet Co.'s Daniels 1, nw c ne, sec 3, sd 1650 ft. T 30s, R 6e, Allison & Fitzwilliams' Manley 1, ne c nw se, sec 20, sd. 300 ft. T 33s, R 4e, Roth & Faurot's Adams 1, se c sec 32, ts 1900 ft, 450,000 ft gas, shut in.

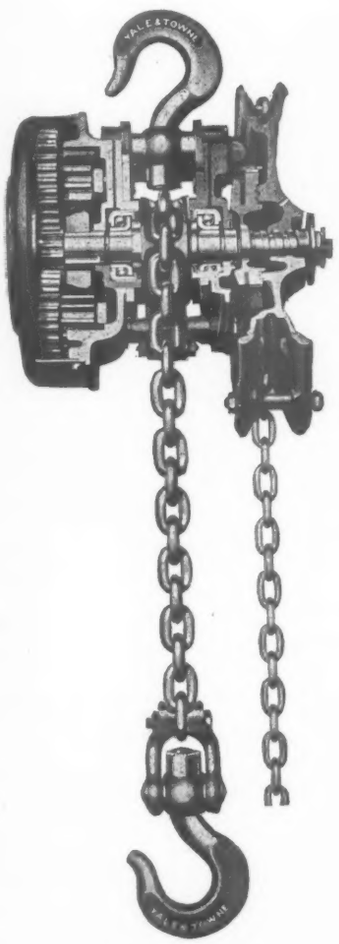
DICKINSON COUNTY—T 16s, R 4e, Skow & Ritchey's Hill 1, c nw nw, sec 2, lcn. Loy et al's Sherman 1, nw c se, sec 24, dr 2435 ft. Harwood & Winters' Utek 1, sw c se nw, sec 35, dr 1600 ft.

ELLIS COUNTY—T 13s, R 16w, Tatlock et al's Leiker 1, nw c ne ne, sec 26, sd 2685 ft.

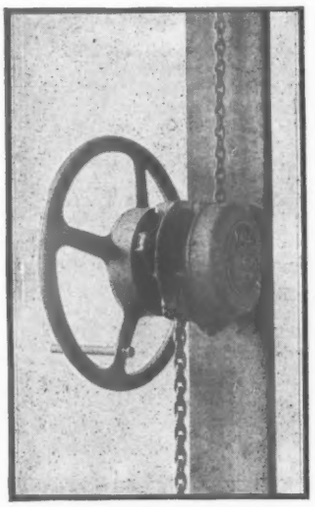
TRADE **YALE** MARK

Ball Bearing Spur-Geared Winch

For Sustaining a load automatically in any position



Cut-open view of Yale Ball Bearing Spur-Geared Chain Block



Yale Ball Bearing Spur-Geared Winch (mounted)

Widely Used Adaptation of Yale Spur-Geared Block

The Yale Ball Bearing Spur-Geared Winch has the advantages of the well-known Yale Ball Bearing Spur-Geared Chain Block, with added advantages that make it highly desirable for use in inaccessible positions and where space is limited.

The Yale Winch is ideal for long lifts of heavy loads because it will hold the weight automatically in any position. The drop forged steel pawl working in conjunction with the ratchet wheel and friction discs have for years given satisfactory service to the user with the maximum of safety.

The illustration shows the mounted winch with hand operating balance wheel which can be changed to hand chain wheel and chain operation like the Spur-Geared block if desired.

As the spur-gear winch is based in design on the Yale Spur-Geared Block, the same excellent features are to be found in each. To summarize:

Ball Bearing load sheave—steel, bronze bushed.

One-piece driving pinion shaft—heat-treated and ground to size.

Heavy, tough, malleable iron pinion cage holding the bronze bushed steel gear and pinions.

Weston type load brake holds the load at all times—has been successful in the spur-geared block for nearly forty years.

The Yale-made steel load chain is die formed—electrically welded—accurately pitched—uniform in strength and finish.

Drop-forged detachable shackle, crosshead, oval pin and hook. Tested on long ton basis to assure ample reserve for safety in emergency.

YALE MAKES

Yale Ball Bearing Spur-Geared Chain Blocks, Yale Screw-Geared Chain Blocks, Yale Differential Chain Blocks, Yale Roller Bearing Trolleys and Cranes.

A Complete Line of Material Handling Equipment

Send for folder

We have just issued a folder giving full details on the Yale Spur-Geared Winch. Copies of this may be had on application from us or from your jobber.

The Yale & Towne Mfg. Co., Stamford, Conn., U. S. A.
Canadian Branch at St. Catharines, Ont.

YALE **Hoisting and Conveying Systems**

YALE MARKED IS YALE MADE

Mid-West Ref Co.'s Reidell 19, nw c sw se, sec 27, td 3870 ft, pb to 3243 ft, shot 20 qts, 5 bbls complete.

ELLSWORTH COUNTY — T 15s, R 10w, Valerious O&G Co.'s Maximer 1, c nw, sec 9, dr 3340 ft. T 16s, R 9w, Phil-Mac Oil Co.'s Gregory 1, c sw, sec 24, dr 3685 ft.

FRANKLIN COUNTY — T 16s, R 18e, Smith, Trace & Fisher's Owens 1, c e l e½ e¼ sec 17, sd 1450 ft. T 17s, R 17e, Omar O&R Co.'s Bush 1, se c sw, sec 25, lcn.

GEARY COUNTY—T 10s, R 5e, Brinkley et al's Fawley 1, ne c nw, ne, sec 16, dr 2502 ft.

GREENWOOD COUNTY — T 25s, R 10e, Smalley & Bement Oil Corp.'s Rockhill 1, nw c ne, sec 12, dr 900 ft. T 27s, R 13e, O. W. Culp et al's Smith 1, c ne se, sec 28, dr 1035 ft, new. T 28s, R 12e, Swanson et al's Hayes 1, se c nw ne, sec 1, sd 1600 ft.

GRAHAM COUNTY — T 8s, R 25w, Gulf Coast Drlg. Co.'s St. John 1, owd, sw c nw se, sec 27, dr 3290 ft.

JEFFERSON COUNTY — T 9s, R 19e, Northern Counties Oil Co.'s Edwards 1, se c nw nw, sec 13, sd 2405 ft.

LABETTE COUNTY—T 33s, R 17e, Cowell et al's Hornbeck 1, sw c ne sw, sec 1, sd 1375 ft. T 35s R 20e, Wantland et al's Lipps 1, se c nw sw, sec 5, sd 910 ft.

LOGAN COUNTY—T 14s, R 33w, Coon et al's Andrews 1, owd, nw c ne nw, sec 14, sd 3855 ft.

LYON COUNTY—T 21s, R 10e, Hawks et al's Schroeder 1, se c sw, sec 14, rig.

MARSHALL COUNTY—T 4s, R 7e, Marshall Oil Synd.'s Finn 1, nw c ne ne, sec 4, sd 2485 ft.

MARION COUNTY—T 17n, R 4e, Givins et al's Ucker 1, sw c ne, sec 31, dr 600 ft. T 18s, R 4e, Skow et al's Melcher 1, c ne se, sec 20, sd 1825 ft. T 19s, R 4e, Franks et al's Urich 1, sw c nw nw, sec 9, rig. Reed et al's Reed 1, nw c sec 17, td 2841 ft pb to 2406 ft, sd. T 21s, R 1e, Sun Ray Oil Co.'s Lehrman 1, sw c ne se sec 1, fsh 2165 ft.

McPHERSON COUNTY—T 17s, R 3w, La Mar et al's Lamar 1, se c sec 1, dr 3174 ft. T 19s, R 2w, Merriman et al's Clark 1, c ne nw, sec 8, chat 3007 ft, dr 3535 ft. T 20s, R 3w, Polar Oil Co.'s Dary 1, c nw, sec 20, spd and sd.

MEAD COUNTY—T 33s, R 28w, Blackwell O&G Co.'s Lilly 1, c se sec 9, sd 3310 ft.

MONTGOMERY COUNTY—T 31s R 14e, Ramler et al's Faler 1, c n l ne ne, sec 31, sd 1085 ft.

MORRIS COUNTY—T 14s, R 7e, Klein et al's Barber 1, se c nw, sec 32, rig. T 16s, R 9e, Lambert et al's Southard 1, swc se, sec 22, lcn.

NEMEHA COUNTY—T 3s, R 11e, Nemeha O&G Co.'s Meyers 1, nw c, sec 19, sd 3050 ft.

OSBORNE COUNTY—T 9s, R 15w, Davis et al's Prather 1, se c sw, sec 30, dr 1750 ft.

OSAGE COUNTY—T 15s, R 15e, Barber et al's Lease 1, c se se sec 3, sd 260 ft. T 15s, R 16e, West et al's Bailey 1, sw c ne, sec 27, sd 800 ft. T 17s, R 17e, Mull Vit Dev. Co.'s Neil 1, nw c ne sw ne, sec 8, sd 3736 ft.

POTTAWATOMIE COUNTY — T 10s, R 12e, Crawford et al's St. Mary 1, sw c sec 11, sd 2290 ft.

RENO COUNTY—T 22s, R 4w, Danciger et al's Williams 1, ne c sw se, sec 6, rig.

RILEY COUNTY—T 10s, R 7e, Youker et al's Theirer 1, nw c sec 20, dr 3028 ft.

ROOKS COUNTY—T 9s, R 16w, Keys Pet. Co.'s Rathburn 1, ne c sw, sec 14, sd 955 ft. T 10s, R 16w, Derby Oil Co.'s Kruse 1, ne c nw ne, sec 3, dr 3066 ft. Streeter & Stearns' Mattison 1, c nw, sec 28, ur 2710 ft.

RUSH COUNTY—T 17s, R 17w, Valerious O&G Co.'s Schreverman 1, c nw, sec 27, spd and sd.

SALINE COUNTY—T 15s, R 2w, Menter O&G Co.'s Muir 1, sw c sec 17, dr 2815 ft.

STAFFORD COUNTY — T 21s, R 11w, Harper et al's Siffers 1, owd, nw c sw ne, sec 23, dr 3015 ft.

SUMNER COUNTY—T 33s, R 3w, Otstot et al's Bartlow 1, se c, sec 22, sd 1850 ft. T 34s, R 2w, Gypsy Oil Co.'s Douglas 1, ne c se nw, sec 23, ts 4493-4499 ft, 16 bbls per hour. T 34s, R 3w, Jarvis et al's Wenrich 1, se c sw, sec 4, dr 2940 ft. T 34s, R 4w, Jarvis et al's Wycoff 1, sw c nw, sec 11, sd 4212 ft. T 35s, R 1e, Otstot et al's Volker 1, nw c ne, sec 9, rig.

WABUNSEE COUNTY—T 12s, R 11e, Empire O&G Co.'s Schwalm 1, se c sec 19, fsh 3320 ft. T 13s, R 12e, Williams et al's Henderson 1, ne c sw ne, sec 15, sd 3600 ft.

WOODSON COUNTY—T 25s, R 14e, Howard et al's Riley 1, nw c sw, sec 31, lcn.

SOUTHERN CALIFORNIA

CLAREMONT—Claremont Oil & Gas Co.'s 1, sd 1130 ft.

DAVIDSON CITY—California Well Drilling Co.'s 1, sd 7060 ft.

DOMINGUEZ — Dominguez Extension Oil Co.'s 1, co 5500 ft, td 5510 ft.

EL SEGUNDO—Rider Synd.'s 1, sd 2300 ft. Southern California Well Drilling Co.'s 1, sd 4865 ft.

FAIRVIEW — Petroleum Securities Co.'s Fairview 1, dr 4321 ft.

GARDENA—Circle Oil & Gas Co.'s 1, sd 4130 ft.

HAWTHORNE—San Clemente Oil Co.'s 1, dr 5578 ft, good oil sand in evidence.

HUNTINGTON BEACH—Calnan Pet. Co.'s S. & W. 1, sd 5105 ft. Duell Petroleum Co.'s 1, rig. J. A. Brower's 1, dr out cmt 5250 ft, td 5355 ft. Leo Stein's 1, sd 5155 ft.

INGLEWOOD—Alenson & Co.'s 1, sd 3500 ft. Hurst Oil Corp.'s 1, sd 3740 ft.

LANCASTER—John B. Harding's La Loma 1, sd 825 ft. Otis Andrew's Lancaster 1, rigging rotary.

MAYWOOD—Magnolia Pet. Synd.'s Tweedy 1, sd 4450 ft.

LYNWOOD—Securities Petroleum Corp.'s 1, rigging up, new lcn.

MONTEREY PARK—Monterey Park Pet. Co.'s Browning 1, dr 3416 ft.

MONTEBELLO — Rotary Air Drill Co.'s Germain 1, sd 1400 ft.

NEWHALL-SAUGUS — James Mayzie's 1, 20-5-17, new lcn, rig completed. W. W. Stabler's Castaic 1, sd 3410 ft. Thomason-McCoy's S. F. C. 1, sd 1610 ft.

ORANGE—Charles A. Son's Pinkerton 1, sd 3620 ft.

PLACENTIA—Shell's Allec 1, dr hard sand 5493 ft.

POTRERO — Associated's Cypress 1, trying to locate water 5408 ft, water not shut off around 4¾-in cas 5276 ft.

PUENTE HILLS—Anchor Pet. Co.'s Hudson 1, sd 2270 ft.

RIVERA—Associated's Patterson 1, slight oil showing below 4200 ft, td 4250 ft.

SAN FERNANDO—Shell's Mission 1, fsh for dr pipe, td 4930 ft.

SAN JOSE HILLS—Bardeen Oil Co.'s Didier 1, swabbing water 2250 ft. D. & B. Oil Co.'s Amar 1, plug 2470 ft, td 4380 ft, sd. Fuller & Gray's Sanchez 1, rig.

SEAL BEACH—George F. Getty's 1, bldg rig, new lcn.

SUNSET—Olympic Refining Co.'s 1, rig.

SAN JUAN CAPISTRANO—O. K. Carr's Forster 2, sd 4200 ft.

TELEGRAPH CANYON—Quadra Pet. Co.'s M. J. M. 1, sd 4210 ft.

YORBA—Standard Oil Co.'s Y. L. W. 1, dr out cmt from 9-in cas 4835 ft, td 4870 ft.

WATTS — Southwest Pet. Corp.'s 1, sd 4300 ft.

WATSON—White-Behr Oil Co.'s 1, sr to set string of 11-in cas at 3990 ft.

MISCELLANEOUS

RIVERSIDE COUNTY—Hemet Pet. Corp.'s Ward 1, dr hard sand 1860 ft. Spindletop Oil Synd.'s 1, sd 3175 ft. Trabuco Oil Co.'s 1, dr sand 3027 ft.

SAN BERNARDINO COUNTY — Colton Terrace Oil Co.'s 1, sd 1620 ft. Como Oil Co.'s Cajon 1, sd 2845 ft. Del Rosa Oil Co.'s 1, sd 915 ft. Hesperia Oil & Gas Co.'s 1A, plug 2800 ft ,td 3310 ft, co to plug. H. & P. Oil Co.'s Ranger 1, rig collapsed, td 2140 ft. McCarty Synd.'s rig blown down, td 1340 ft. J. W. McPherson's Yucaipa 1, dr hard sand 318 ft. Western Pacific Oil Co.'s 3, sd, will resume operations at once.

SAN DIEGO COUNTY—Cardiff Oil Corp.'s Turner 1, sd 2805 ft. Davenport Oil & Gas Co.'s 1, dr hard shell 231 ft. Ganymede Oil Co.'s Oceanside (Dunn) 1, fsh for dr pipe 3200 ft. Torrey Pines Oil Co.'s 1, sd 480 ft. Stanley S. Turner's Baler 1, dr 231 ft.

NORTHERN CALIFORNIA

FRESNO COUNTY

CLOVIS—Fresno-Madera Oil Co.'s 1, 18-12-21, dr 3916 ft, gas showings.

RAISIN CITY—Fresno-United Oil Co.'s 1, 23-15-18, sd 3960 ft.

WARTHAM—Bald Mountain Drilling Co.'s 1, 20-12-13, sd 900 ft. Progressive Oil Co.'s 1, 20-19-15, sd 1100 ft.

KERN COUNTY

BAKERSFIELD—Pacific Eastern Production Co.'s Union Avenue 1, dr 5062 ft, oil showings.

BELRIDGE—Zurich Oil Co.'s 1, 15-28-22, dr out cmt 1875 ft, td 2085 ft.

BUTTONWILLOW—McAdams et al's 1, 26-29-23, gas showings 3000 ft. Milham Exploration Co.'s 2, 8-28-23, dr 2113 ft.

COMANCHE POINT—Kern 29, Oil Co.'s 1, 29-31-30, sd 2415 ft.

DELANO—North American Consolidated Oil Co.'s Wallace 1, 5-25-25, fsh for dr pipe 3670 ft.

DEVILS DEN—Devils Den Producing Co.'s 5, 23-25-18, pumping 11 bbls 1375 ft. W. T. Garrett's 1, 30-25-19, rig. Marathon Oil Co.'s 1, 13-25-18, sd 4390 ft. Midway Northern Oil Co.'s 1, 25-25-18, sr 2360 ft, td 2440 ft. R. H. Sayers' 1, 25-25-18, sd 1475 ft.

EDISON—General Pet. Corp.'s Kerwin 1, 5-30-29, bad water shut off 3780 ft, td 4006 ft. Midway Northern Oil Co.'s 1, 29-29-30, dr 1209 ft.

FRUITVALE—Pacific Eastern Production Co.'s 1, 21-29-27, dr 3838 ft, gas showings.

GRANITE CANYON—Pearl Durmal's 1, 32-27-29, lcn.

GREENFIELD—Mays & Valencia's 1, 31-30-28, rig.

GOULD HILLS—Bomke & Ball's 1, 12-29-20, sd 1350 ft. California-Kentucky Oil Co.'s 1, 8-29-20, sd 1620 ft. Cymric Oil Co.'s 1, 36-28-20, dr 821 ft. Moore & Delaney's 1, 11-29-20, dr 410 ft. Ozena Oil Co.'s 1, 29-29-21, dr sandy shale 1837 ft.

McKITTRICK—Electric Pet. Co.'s 1, 34-30-22, sd 1680 ft. Gore Oil Co.'s 1, 34-30-22, sd 1350 ft.

MON BLUFF — Union Oil Co.'s Tribe 1, completed 1781 ft, 300-bbl well.

NORTH POSO CREEK—Bruce Frame's 1, 18-26-28, dr 2144 ft, gas showing. General Petroleum's Glide 1, 21-27-28, completed 1738 ft, 500-bbl well.

SHALE HILLS—Huntington & Hawthorne's 1, 35-26-18, sd 600 ft. Nelson & Mountford's 1, 18-27-19, sd 2690 ft. Oildale Oil Co.'s 1, 13-27-18, sd 560 ft.

SUNSET—Fresno-Sunmaid Oil Co.'s 1, 16-11-24, sd 4200 ft.

TEMBLOR HILLS — Salegna Investment Co.'s 1, 36-29-20, dr gray sand 592 ft.

TEHACHAPI-MOJAVE—C. R. Asmussen's 1, 23-11-11, sd 1510 ft. Crusaders Oil Co.'s 1, 21-10-10, co 2360 ft. John B. Harding's 1, 5-10-10, sd 1050 ft.

SANTA BARBARA COUNTY

BUELLTON—F. & W. Buttram's Odin 1, sd 1970 ft.

GOLETA—Barnsdall Oil Co.'s Edwards 2, 11-in cas cmt 1810 ft, td 1895 ft. California-American Holding Co.'s P. & B. 1, dr 1567 ft. Graham-Loftus Oil Co.'s Orella 1, sd 1600 ft. J. J. Rekar's Pa Patera 1, dr 1899 ft.

ORCUTT—G. O. Gorham's 1, 33-10-34, lcn.

SANTA BARBARA — Channel Oil & Dev. Co.'s 1, dr 6000 ft. Hollywood Oil Corp.'s 1, sd 1300 ft. Twin State Oil Co.'s 1, dr 1816 ft.

SUMMERLAND — Summerland Oil Co.'s Becker 1, water trouble 3030 ft.

VENTURA COUNTY

CAMARILLO—Standard Oil Co.'s Camarillo 1, sdtr dr pipe 5725 ft.

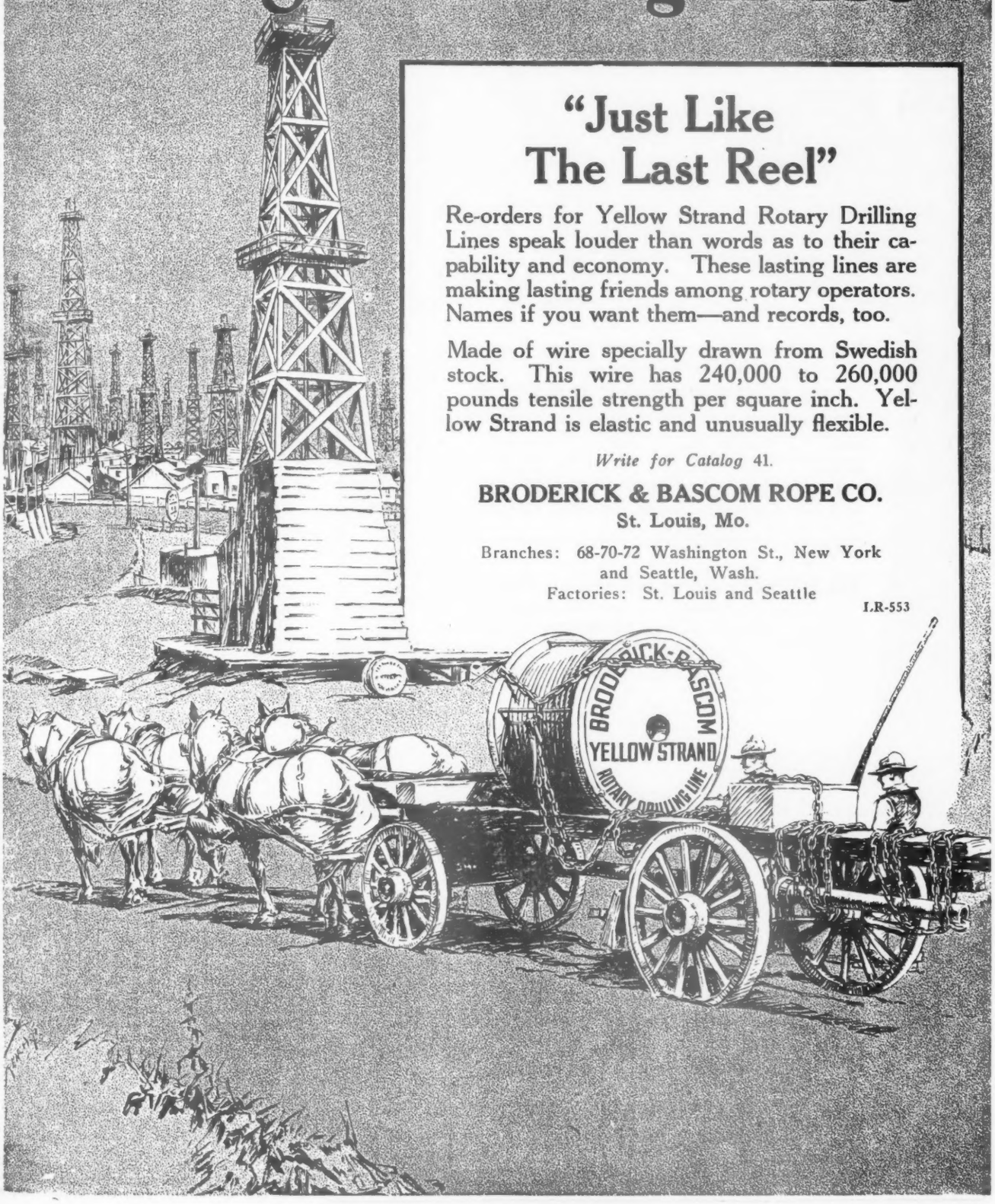
FILLMORE—Sespe Oil Co.'s Smith 2, sd 4005 ft. Superior Oil Co.'s Rancho Sespe 1, depth not given.

HOPPER CANYON—Ruth J. Bishop's 2, changing to cable tools 200 ft.

MOORPARK—E. A. Parkford's Lloyd 1, rigging rotary 4000 ft. Shell's Berylwood 2, testing 8⅝-in cas shutoff 6050 ft, td 6070 ft.

RINCON—Bankline Oil Co.'s State 1, lcn. Chanslor Canfield Midway Oil Co.'s Hobson 1A, plug 6678 ft, td 7002 ft, fsh for swab; Hobson 1B, swabbing salt water, td 5738 ft; Hob-

Yellow Strand Rotary Drilling Lines



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son 1C, dr 2460 ft; Hobson 2C, dr 2466 ft; Hobson 3C, dr hard sand 2000 ft; Hobson 4C, rig. General Petroleum's Ferguson 1, lcn; Hobson 1, dr 1864 ft; Tomson 1, dr 1100 ft. Miley Oil Co.'s H. & H. 1, dr 2733 ft; H. & H. 2, dr 2750 ft; H. & H. 3, rig. Montecito Oil Producers' Cota 1, dr 3566 ft. Pan-American Pet. Co.'s State 1, trying to increase prod, plug 2800 ft, td 3220 ft; State 2, dr 2686 ft; Fee 2, dr 2688 ft; Fee 3, completed 2557 ft, 900-bbl well; Fee 4, dr 2600 ft. Scott Pet. Properties' Rincon 1, dr 1738 ft.

SANTA PAULA—W. W. Bryant's Anlauf 1, sd 1590 ft. Meriam Pet. Co.'s Anlauf 1, pumping little oil, td 1330 ft.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, setting 6¼-in cas on bottom, td 3952 ft.

SATICOY—Standard's 1, dr 1569 ft.

SULPHUR MOUNTAIN—Geis & Bradford's 1, 21-4-22, dr oil shale 2315 ft.

MISCELLANEOUS

KINGS COUNTY—Associated's 1, 12-23-18, sd 2043 ft. Bolsa Chica Oil Co.'s 1, 30-23-19, sd 3500 ft. General Pet. Corp.'s 1, 22-26-18, dr brown shale 5550 ft. Milham Exploration's 1, 2-22-17, sd 6150 ft. Monocline Dev. Co.'s 1, 7-21-21, sd 4310 ft. Hugh McPhail's 1, 13-24-18, sd 2080 ft. South Coalinga Oil Co.'s 1, 35-24-19, setting 8¼-in cas 2890 ft, td 2920 ft.

COLOUSA COUNTY—Continental's 2, 31-18-4, dr 4008 ft.

MADERA COUNTY — Fort Wayne-Madera Synd.'s 1, 22-1-17, fsh 2250 ft.

SAN LUIS OBISPO COUNTY — Dabney Oil Co.'s 1, 10-29-17, fsh for dr pipe 2600 ft. Oil Co.'s 1, 15-29-17, dr 2305 ft. Richfield Union Oil Co.'s 1, 34-32-15, rig. Waklin Petroleum Co.'s 1, 27-27-11, dr brown shale 2575 ft.

SAN MATEO COUNTY—Shell's Cowell 1, 8-6-5, dr 5290 ft.

SANTA CLARA COUNTY—Continental's 2, 31-11-4, dr 1461 ft.

TULARE COUNTY—Birch Oil Co.'s 1, 13-21-16, gas showings at 2900 ft. Ducor Drilling Co.'s 1, 29-23-17, sd 4160 ft. Josephine E. Neame's 1, 24-17-24, sd 2025 ft.

EAST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
HARRISON COUNTY—		
Doney et al's Furrh 1, J. Short sur.	*	1006
State Line O. & G. Co., Mullins 2, T. D. Wilson sur	*	996
ANDERSON COUNTY—		
Humble O. & R. Co., Jones 1, Dan Roberts sur	*	3650
RUSK COUNTY—		
The Texas Co., Schultz 1, A. Loffton sur	*	3349

ANDERSON COUNTY—Brooks et al's Henby 1, Joseph Mertz sur, dk. Humble O. & R. Co.'s Spencer Clemens 3, Sessions sur, dr 3960 ft; Lizzie Smith 1, Dan Roberts sur, dk.

CAMP COUNTY—J. C. Rogers' Boyd 1, R. M. Montgomery sur, dr 401 ft.

CHEROKEE COUNTY—Humble O. & R. Co.'s Elliott & Clark 1, M. Windsor sur, dr 4003 ft. Panhandle Oil Co.'s Whalen 1, J. Jordan sur, sd 550 ft. Joe Walter et al's Barns & DeLoach 1, Perry Reese sur, dr 712 ft.

HENDERSON COUNTY—W. K. Cayton et al's Hoffer & Nash 1, H. Jefferson sur, sd 2910 ft.

HARRISON COUNTY—J. R. Bahan's Furrh 5, J. Short sur, set 6-inch 996 ft. Doney et al's Furrh 2, J. Short sur, dk. C. H. Lyons' Furrh 1, J. Short sur, set 6-inch 995 ft. Magnolia Pet. Co.'s Vincent 1, R. W. Bedford sur, dk. Mitchell et al's Jones 1, J. Lipscomb sur, wosr 957 ft. Simms Oil Co.'s Pollard 1, J. Short sur, rig. Thomasson et al's Timmons 2, J. Lipscomb sur, set 6-inch 935 ft. Tylong O. & G. Co.'s Vaughan 3, W. R. Anderson sur, dr 790 ft. A. L. Waller's Bryson 3, W. R. Anderson sur, bailing 980 ft; Bryson 4, W. R. Anderson sur, dk.

KAUFMAN COUNTY—Cranfield et al's Nicholson 1, A. Bennett sur, sd 3250 ft.

MARION COUNTY—Lumbermans Oil Co.'s Bonham 1, R. Potter sur, dr 1200 ft.

NACOGDOCHES COUNTY—Bluie et al's Griffin 1, J. W. Anderson sur, sd 23 ft Stein & Lewis' Birdwell 1, Jose A. Chirino sur, sd

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1100 ft. Union Sulphur Co.'s Whitermark 1, Jose A. Chirino sur, dr 2605 ft.

PANOLA COUNTY—Bethany O. & G. Co.'s Burns 3, W. A. Birdson sur, testing 1015 ft; Burns 4, W. A. Birdsong sur, set 10-inch at 102 ft; Richardson 3, J. Yarnell sur, set 6-inch 1035 ft. S. H. Gardner et al's Roquemore 1, B. C. Jordan sur, set 6-inch 2204 ft; Roquemore 2, B. C. Jordan sur, rig. H. Hines' Jones 1, G. Goodwin sur, rig. Magnolia Pet. Co.'s S. Davenport 2, Jessee Dunlop sur, wosr 2398 ft; Fletcher 1, B. C. Jordan sur, dr 2442 ft; Jernigan Estes 1, Lowell sur, dr 280 ft; Sol Oden 1, E. F. Micheson sur, dr 1157 ft; Steele 13, B. C. Jordan sur, set 8¼-inch 975 ft; Trosper 1, J. Shandoin sur, fsh 2416 ft; Trosper 3, J. Shandoin sur, rig.

RUSK COUNTY—C. M. Joiner et al's Bradford 1, K. Zimines sur, fsh 1110 ft. Magnolia Pet. Co.'s Durren 1, Agulla Norris sur, dk. McCurrie et al's Sparks 1, Jessee Coarse sur, sd 2148 ft. Rusk Development Co. & Osborne et al's Matthews 1, D. Cortinas sur, sd 2330 ft.

SMITH COUNTY—Dr. Gaither et al's Parker 1, Don Thomas Quevedo sur, sd 3251 ft.

SHELBY COUNTY—Magnolia Pet. Co.'s Pickering Lbr. Co. 1, Wm. J. Crane sur, dr 3336 ft. Wm. Sebastian's Pickering Lbr. Co. 1, T. F. Polly sur, wtg for cas 2923 ft.

SABINE COUNTY—Crater Oil Co.'s Nona Mills 2, Anthony Shoals sur, sd 3294 ft.

UPSHUR COUNTY—S. W. Richardson's Newsome 1, J. R. Davis sur, sd 2025 ft; Minor 1, A. Lowery sur, fsh 3500 ft.

CASS COUNTY—The Texas Co.'s Pruitt 1, W. G. Lissenbee sur, rig.

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
JEFFERSON COUNTY—		
Jim McMurry, Crosby 1, 5 mi ne Port Arthur	*	3350
Beaumont Oil & Prospecting Co., Tyrell 1, 3 mi nw Beaumont	*	4200
LIBERTY COUNTY—		
Judge Titwell et al, Gardner 1, 5 mi e of Davis Hill	*	3510

AUSTIN COUNTY—Humble's Gotosky 2, Raccoon Bend, dr 2545 ft sand and shale; Straviski 1, Raccoon Bend, dr 971 ft shale and lime. Alexander & Lyles' Goebel 1, sd 1300 ft. L. H. Weadock's Ward 1, dr 225 ft sand.

BRAZORIA COUNTY—Roxana Pet. Corp.'s Allen Bernard 1, Allen Dome, flowing 25 bbl a day when agitated with bailer; Allen 4, Allen Dome, dr 4580 ft sand lime and shale; Randon 1, Allen Dome, waiting for cement to set, td 4464 ft; Bell 2, Clemons Dome, dr 5111 ft shale. Gulf's Perry 3, Stratton Ridge, dr 4005 ft.

CHAMBERS COUNTY—Pure Oil Co.'s Lost River 1, Lost Lake Dome, dr below 2300 ft.

COLORADO COUNTY—Rich Oil Corp.'s Von Rosenberg 1, about 2½ mi s of Columbus, dr 550 ft hard limey shale.

FORT BEND COUNTY—Gulf's Beard 2-A, Long Point, dr 3734 ft; Moore 14, Moore's Field, dr 3709 ft. Sun Oil Co.'s Kasparek 1, Boling, dr 2390 ft gbo and lime; J. R. Farmer 5, Boling, ru; H. R. Farmer 3, Boling, dr 1125 ft lime; H. R. Farmer 4, Boling, ru. Humble's Sugar Land Industries 1, Sugar Land, dr 90 ft. Gulf's Wolf 7, Long Point, spd; Trone 6, Long Point, spd.

HARRIS COUNTY—Dr. P. S. Griffith's Fee 2, 12 mi n of Houston, sd 3517 ft. Juanita Oil Co.'s Kitsman 1, 3 mi n of Cypress, td 1180 ft. Humble-Marland's Warren 2, Hockley, dr 3744 ft.

JEFFERSON COUNTY—Deep Test Oil Co.'s McFaddin 1, 4 mi n of Spindle Top, sd 2175 ft. Gulf's Bordages 4, Fannette, dr 4352 ft. Beaumont Oil & Prospecting Co.'s Tyrell 1, 3 mi nw Beaumont, abn 4200 ft. Southern Spindle Top Oil & Dev. Co.'s Young 1, 1 mi w of Nederland, sd 3350 ft. Jim McMurry's Crosby 1, 5 mi ne of Port Arthur, abn 3350 ft. Port Arthur O. & Dev. Co.'s West 4, Westbury, sd 2925 ft.

LIBERTY COUNTY — Harrison Oil Co.'s Quintette 2, temp abn 4602 ft. Judge Titwell et al's Gardner 1, 5 mi e of Davis Hill, abn 3510 ft. The Texas Co.'s Havard 1, Davis Hill, dr 4294 ft sand. Barlow et al's Minchcliff 1,

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LONG BEACH, CALIF.

Mr. E. Tompkins, August 26, 1926
Reading Iron Co.,
Pacific Mutual Bldg.,
Los Angeles, California

My Dear Mr. Tompkins,

Wish to advise you of some of the merits and general satisfaction we have experienced through our handling and work with the Reading Wrought Iron Casing.

First, we believe, that the Reading Casing to be the best that money can buy. Second, that it is the easiest casing to handle, that is, in making up and running it into hole, in that you have no trouble whatever with the threads, which you know to be a great labor and time saving, regardless of the length of casing to be set, you have no parting the threads being uniform.

We have set some very long strings of Reading Casing, in fact, we have set five long strings without a set back, which we believe speaks very well for the threads, joints, and the pipe in general. Have also used 300 feet of 10-inch as washover pipe for 30 days without injuring a thread or joint.

Hoping that you will accept this in the same spirit in which it is given, we beg to remain,

Very truly yours,
A. S. JOHNSTON DRILLING CORP.,

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The "American" Oil Well Pumping Jack!

The "American" Totally Enclosed Oil Well Pumping Jack has been designed in answer to the demand for the efficient pumping of individual oil wells.

American Jacks are made in three sizes—twelve-inch to fifteen-inch stroke, fifteen-inch to eighteen-inch stroke, and eighteen-inch to twenty-two-inch stroke. All gears are totally enclosed and run in a bath of oil which floods the bearings, insuring smooth operation and long life. The head proper may be disengaged from the cable and swung back from the walking beam, permitting the rods to be pulled without moving the jack itself. There are no screw mechanisms or adjustments necessary. No gears are exposed.

Compact, sturdy and economical in operation.

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All Pioneer Oil Well Shooters

2¼ mi ne Cleveland, sd 2215 ft. Yount-Lee Oil Co.'s Mitchell 1, S. Liberty, dr 2590 ft gbo.

MATAGORDA COUNTY—Gulf's Sanborn 4, Hawkinsville, dr. Matagorda County Dev. Co.'s Hawkins 1, Bay City, sd 1985 ft shale.

MONTGOMERY COUNTY—Brains et al's Fitch A-1, 3 mi e Spring, dr below 3680 ft.

SOUTH LOUISIANA

ASCENSION PARISH—Gulf's United Lands Co.'s 4, Sorrento Dome, spd.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 722, Sulphur Dome, ru. Newton Drilling Co.'s Dupre 1, Lake Charles, dr 2720 ft gbo.

CAMERON PARISH—Pure Oil Co.'s Sweet Lake 2, Sweet Lake, waiting on orders; Sweet Lake 3, Sweet Lake, making 465 bbl oil daily; Sweet Lake 4, Sweet Lake, dr 5470 ft; Sweet Lake 5, Sweet Lake, dr 5428 ft. Louisiana Land & Explo. Co.'s Calcasieu Lake A-1, dr 1373 ft. Calcasieu Oil Co.'s Olevia 1, Kelso Bayou, dr 3867 ft gbo; Watkins 1, Kelso Bayou, set surface csg at 66 ft. Yount-Lee Oil Co.'s School Lands 7, set surface csg at 943 ft.

IBERIA PARISH—La. Land & Explo Co.'s Vermilion Bay A-1, 3¼ mi sw of Cypremont Point, set 9¼-inch csg at 559 ft; Avery 1, Avery Island, about 15 mi sw of New Iberia, lcn. Gulf's Brussard 1, Loreauville, dr 4718 ft; State Z-3, Loreauville, dr 1182 ft shale. Jefferson O. & Dev. Co.'s Je¾ Island Salt Co. 2, dr 488 ft sand and gravel.

IBERVILLE PARISH—Roxana's Wilbert 1, White Castle Dome, 1581 ft sand and shale, coring. Union Sulphur Co.'s Wilbert 1, Bayou de Glaise, ru; Schwing 1, Bayou Blue, spd.

JEFF DAVIS PARISH—Estropal Oil Co.'s Le Doux 2, sd 2980 ft. John Carrodine et al's Walsh 1, Welsh, sd 1355 ft.

LA FOURCHE PARISH—Gulf's Stark et al 2, Thibodaux, ru.

ST. MARTIN'S PARISH—Rycade Oil Corp.'s Atchafalaya 1, fsh for stuck drill pipe at 3916 ft; Atchafalaya 2, spd.

ST. MARY'S PARISH—Jacob Dannenbaum's Viguerie 1, Grand Lake, lcn.

TERREBONNE PARISH — Southern Gas Co.'s South Down 3, sd 2400 ft; South Down 4, lcn.

WEST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
ECTOR COUNTY—		
J. S. Cosden & The Texas Co., Connell 5	*	4013
CROCKETT COUNTY—		
Anderson & Marland Oil Co., University 1	*	2631
Jas Kelly et al, Todd 1	*	2605
RUNNELS COUNTY—		
Noble O. & G. Co. et al, Simms 1	*	3506
PRESIDIO COUNTY—		
Hadlock-Miller et al, Tootle 1	*	3507

ANDREWS COUNTY—Amon Carter and Henry Zweifel's Cowden 1, elev 3156 ft, top salt 1575 ft, sd 4975 ft. J. S. Cosden et al's Bedford-Ratliff 1, sd 4116 ft. Calvin-Belt's Bedford-Ratliff 1, elev 3194 ft, top salt 1610 ft, dr 4005 ft. Deep Rock Oil Co.'s Harris 1, elev 3173 ft, sd 1250 ft. C. B. McKennon et al's Means 1, elev 3144 ft, sd 1680 ft.

BORDEN COUNTY—Marland Oil Co.'s McDavid 1, sd repairs 1375 ft.

BREWSTER COUNTY — Cowden-Bowser's Jackson-Harmon 1, rig. J. M. Hickey et al's Jackson-Harmon 1, dr 925 ft. Van McPhail et al's McIntyre 1, sd 1125 ft. Mid-Kansas O. & G. Co.'s Turney 1, dr 2600 ft. Reese & White's Kimball 1, sd 1305 ft. Wilcox-Anderson's Gage 1, sd 1805 ft.

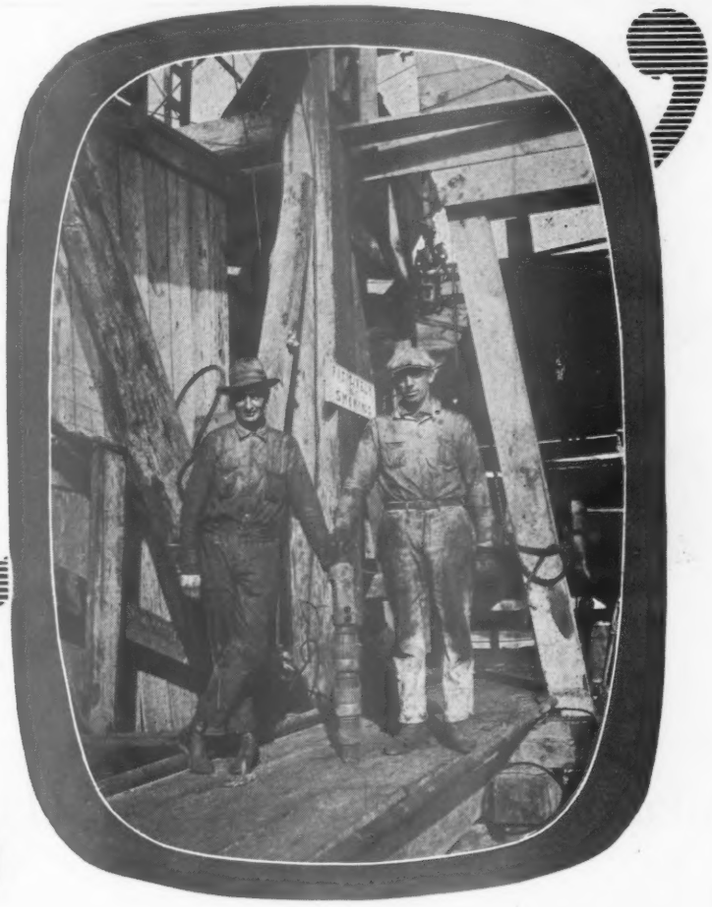
COKE COUNTY—Brown et al's Foster 1, sd 2250 ft. Danciger O. & R. Co.'s Byrne 1, ur 3175 ft. Lipan Oil Co.'s Conner 1, sd 3315 ft; Rawlings 1, sd 2736 ft.

CONCHO COUNTY — Exploration Co.'s Hartgrove 1-A, dr 865 ft. Lawson & Parks' Schultz 1, sd 1500 ft.

CRANE COUNTY—Crane County Dev. Co.'s Mosely-Brookfield 1, sd 850 ft. Gulf Prod. Co.'s Waddell 3, elev 2724 ft, top salt 1165 ft, dr 2315 ft.

CROCKETT COUNTY—J. S. Cosden et al's Paul Perner 1, sd 615 ft. Corbett & Gill's University 1, sd 2320 ft. W. W. Donnelly et al's Shannon 1, sd making gas 1664-80 ft; Shannon 2, lcn; Massie 1-A, sd 305 ft; Todd 1,

"goes down faster — brings up a bigger load"



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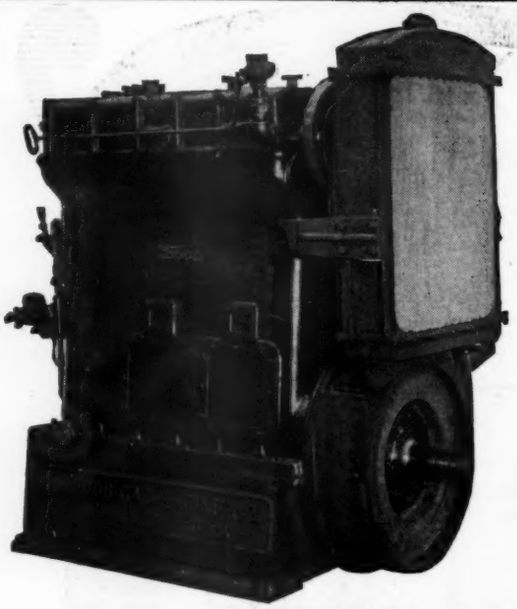

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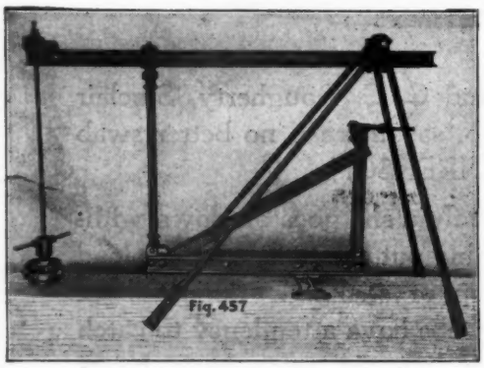
Fig. 457

ALTEN'S O. K. Pumping Jacks are made to stand a lot of heavy lifting, but strength isn't all they have. They also are made to stand the wear and tear, to operate smoothly and efficiently, and to keep unnecessary strain off sucker rods, pumping powers and stuffing boxes.

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lcn. Jas. Kelly et al's Todd 1, sd 2605 ft. Osage Oil Corp. et al's Halff 2, rig. C. E. Simmons & Co.'s Halff 1, elev 2152 ft, dr 1100 ft. World Oil Co.'s Schneeman 1-B, elev 2623 ft, dr by junk 2330 ft.

CULBERSON COUNTY—Deep Rock Oil Co.'s T&P Fee 2, sd 1210 ft; Seay 1, spd and sd. Jas. Gardner & Sun Oil Co.'s Radford 1, fsh 635 ft.

JEFF DAVIS COUNTY—Humble O. & R. Co.'s C. Flores 1-A, dr hfw 3130 ft. E. L. Smith Oil Co.'s Means 2, fsh 2560 ft.

ECTOR COUNTY—J. S. Cosden and The Texas Co.'s Connell 5, elev 2843 ft, top lime 3375 ft, dry and abn 4013 ft.

FISHER COUNTY—Cranfill-Reynolds et al's Young 1, dr 2735 ft. Ideal Oil Co.'s Jameson 1, sd 3440 ft. Marland & Vacuum Oil Co.'s Lagow 1, sd 3530 ft. The Texas Co.'s Dan Stephens 1-A, elev 1937 ft, dr 3195 ft.

GARZA COUNTY—Gulf's Swenson 1-A, elev 2492 ft, top salt 495 ft, top lime 2075 ft, dr 3030 ft.

GAINES COUNTY—Westheimer & Daube's Forbes 1, sd 4900 ft.

GLASSCOCK COUNTY—Marland & Texon O. & L. Co.'s Settles 1, top lime 2030 ft, sd 2230 ft.

TOM GREEN COUNTY—Cox et al's Llano 1, sd 470 ft. Humble et al's Johnson 1, sd 960 ft. Marland Oil Co.'s Johnson 1, dr 3045 ft; Johnson 1-A, dr 2360 ft.

HOCKLEY COUNTY—World Oil Co.'s Ellwood 1, elev 3363 ft, sd 1450 ft.

HOWARD COUNTY—Bristow & Merrick's Roberts 1, spd and sd. The California Co.'s Fisher 1, elev 2623 ft, top lime 3065 ft, cas trouble 3783 ft. Coyle-Concord Oil Co.'s Roberts 2, co after shot 1875 ft; Roberts 3, dr 1020 ft. Dixie Oil Co.'s Clay 1, sd 3325 ft. F-H-E Oil Co.'s Roberts 1-C, dr 1835 ft; Roberts 1-D, dr 1305 ft. Gulf Prod. Co.'s Chalk 4, rig. Godley O. & G. Co.'s Hooks 2, fsh 1794 ft; Hooks 3, rig. Henshaw & Co.'s Settles 1, sd 1900 ft. Lee & Neely's H. Hyman 1, sd 1400 ft. Lockhart & Co.'s Roberts 1, dr 1295 ft. Magnolia Pet. Co.'s Kelly-Chalk 9, dr 1645 ft; Mary-Chalk 9, dr 1455 ft; Sarah Hyman 4, dr 515 ft; Roberts 2, dr 1230 ft; Roberts 3, dr 370 ft; Roberts 4 and 5, rigs; Roberts 6, dr 265 ft; Magnolia-Roberts 1, rig. Marland Oil Co.'s Clay 1-E, elev 2662 ft, dr 3625 ft; Richardson 1, elev 2359 ft, dr 2370 ft. Marland & Texon O. & L. Co.'s Connally 1, sd show oil and hfw 4120-42 ft, td 4146 ft; Settles 2-A, rig. Marland & F. P. Zoch's Jones 1, top salt 970 ft, dr 255 ft. Mays & Nixon's Flowers 1, sd 1390 ft. Miley Oil Corp. & Marland's Read 1, spd and sd. Owen-Sloan et al's Roberts 2, elev 2756 ft, top lime 2015 ft, swabbed 200 bbls oil three hours 2570-90 ft; Roberts 2 and 3, lcns. Peer Oil Corp.'s Read 1, sd 3215 ft. Schermerhorn Oil Co.'s Roberts 1, dr 2100 ft; Roberts 1-A, dr 650 ft. Sprague Oil Co.'s Roberts 1, spd and sd. Sun Oil Co.'s Settles 1, dr 225 ft. Sweeney & Henry's Chalk 2, dr 935 ft; Chalk 5, set cas 1560 ft. World Oil Co.'s Roberts 1, cem cas 1675 ft. Weekly Oil Corp. et al's Roberts 1, spudding.

HUDSPETH COUNTY—Lockhart & Co.'s Moore 1, sd 905 ft; Gardner-Moseley 1, sd 975 ft.

IRION COUNTY—F. E. Webb et al's Nutt 1, spd and sd.

JONES COUNTY—E. P. Campbell et al's Herndon 1, sd 3009 ft. R. F. Garland & Co.'s Glynn 1, sd 2430 ft. Hutson-Weaver et al's Smith 1-A, dr 2055 ft. Phillips Pet. Co.'s Vestal 2, dr 1660 ft. W. G. Stough et al's Bennett 1, sd 800 ft; Willis 1, sd 1740 ft. Swensondale Oil Co.'s Canton 1, co 3315 ft.

KING COUNTY—Humble's Pitchfork 1, dr 3325 ft. Pattison et al's Patton 1, sd 3410 ft.

LOVING COUNTY—Delaware Oil Co.'s Lockhart-Ramsey 1, rig. Owen-Sloan Oil Co.'s Johnson 1, dr 1010 ft.

MENARD COUNTY—May-Clark et al's Callan 1, dr 345 ft. Renfro et al's J. Davis 1, dr 175 ft.

MIDLAND COUNTY—Shoup et al's Roy Parks 1, lcn.

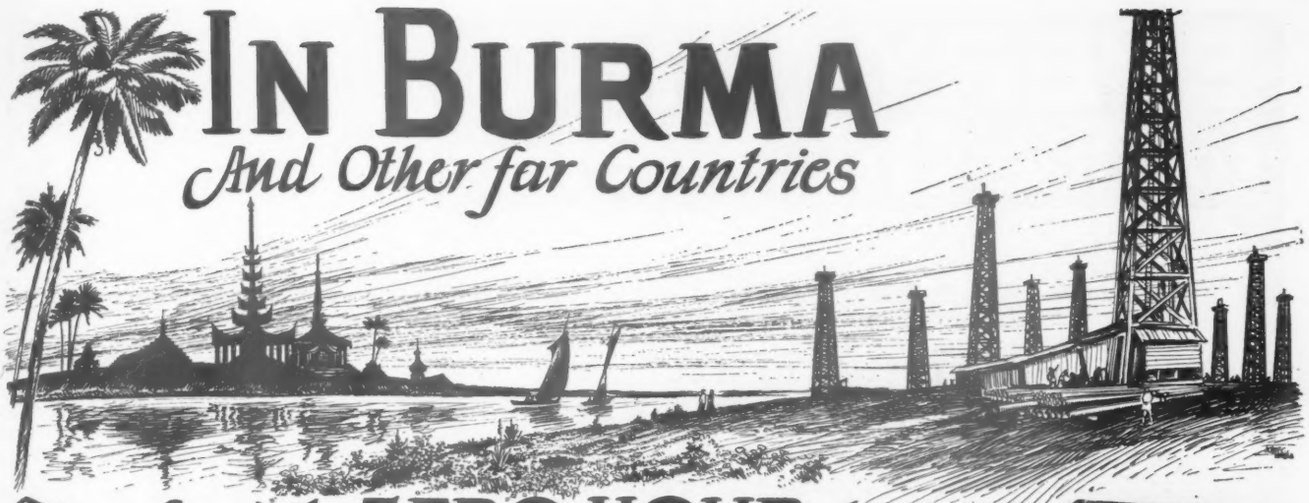
MITCHELL COUNTY—Paul Teas et al's A. C. Mills 1, sd 670 ft.

NOLAN COUNTY—John Winemiller Corp.'s Arledge 1, dr 2315 ft.

PECOS COUNTY—Geo. H. Anderson et al's Sherbino 1, dr 665 ft. Bell-Hagan's Pryor 1, lcn. Cummings et al's Blackstone-Slaughter 1, sd 2528 ft. Crude Oil Co.'s Pecos River 5, sd 610 ft; River 6, dk; River 8, sd 110 ft; River

IN BURMA

And Other far Countries



They find the ZERO HOUR *bomb* SAFE *and* SIMPLE *to operate.*

WHEN a detonator for oil well shots can be transported to the far side of the world—received by men to whom it is totally strange—and operated successfully with no instructions except the printed directions which accompany it—that detonating device must be correct in design and construction — it must combine remarkable SAFETY, SIMPLICITY and DEPENDABILITY.

In October, 1925, a number of Zero Hour Electric Bombs were ordered shipped to Rangoon, Burma, by a British exporting house, for use in the Yenangyaung field. In October, 1927, the same customer placed a second order for TWICE AS MANY to be shipped to the same place.

The Zero Hour Electric Bomb is easy to operate according to simple printed directions. It is SAFE, both for the shooter and well, because it cannot explode before the time for which it is set to explode. It SAVES TIME and ELIMINATES UNCERTAINTY because it can be depended upon to put off the shot, functioning under any conditions of heat, pressure, magnetic influence, or when buried with the shot under cavings. Realizing that protection of costly wells is true economy, many major operators in the United States specify a Zero Hour Bomb for EVERY shot in EVERY well. And now operating companies in foreign lands are turning to the Zero Hour Electric Bomb for putting off oil well shots safely and certainly. An order for export shipment of Zero Hour Electric Bombs to Buenos Aires, Argentina, South America, has recently been filled for one of the largest companies operating there.

The Zero Hour Electric Bomb can be secured through all principal torpedo companies. Standard Type has a setting range of 1 to 11 hours; Special 22-Hour Type has a setting range of 12 to 22 hours. Both types are furnished with either 3¼" O.D. cast iron shell, or with 2½" O.D. seamless tubing steel shell with cast iron cap.

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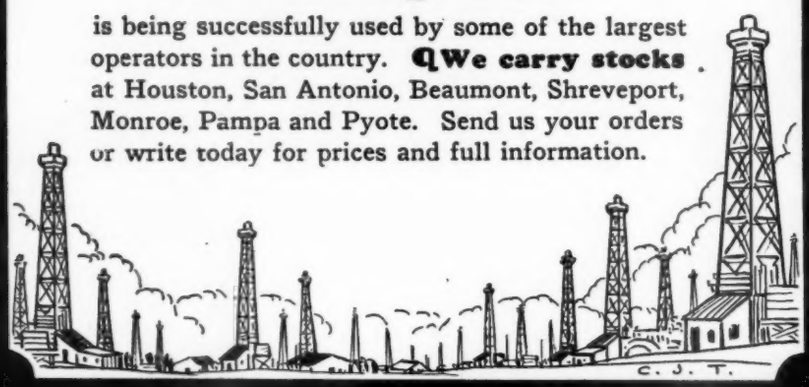


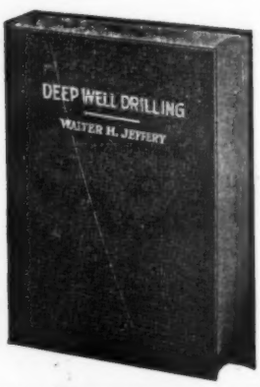
THE LARGEST SUPPLY HOUSE IN THE SOUTHWEST

PEDEN IRON & STEEL CO.
HOUSTON – SAN ANTONIO – SHREVEPORT

Second Revised Edition

Deep Well Drilling

By WALTER H. JEFFERY



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11, sd 915 ft. Day Bros. & McKnight's Yates 1, elev 2213 ft, sd 895 ft. Douglas Oil Co. & Roxana's Sellman 2, dr 425 ft. Everett et al's J. Fields 1, spd and sd. Gibson Oil Corp.'s Russell 1, dr by tools 225 ft. Henshaw & Co.'s Corder 1, sd 960 ft; Sweatt-Hinyard 1, elev 2770 ft, sd 2506 ft. Kershaw & Livingston's Cannon 1, rig. Kirby Pet. Co. & Edson Pet. Co.'s Harral 1, top salt 1005 ft, dr 2680 ft. Robt. Lee et al's Parker 1, rig. Mid-Kansas O. & G. Co.'s Pryor 1, rig. Mid-Kansas & Transcontinental's Smith 2, sd 355 ft. Moody Corp.'s Corder 1, top salt 1120 ft, dr 1310 ft. Olean Pet. Co.'s Harral 1, dr 3235 ft. Oregon Oil Corp.'s Yates 1, rig. B. J. Spikes et al's Brown 1, spd and sd. Transcontinental's Blackstone-Slaughter 1, elev 3539 ft, dr 3875 ft. World Oil Co.'s M. Cerf 1, elev 3435 ft, dr 265 ft; Kloh 1, elev 2810 ft, rig.

REAGAN COUNTY—Camp & Henshaw's University 1, elev 2772 ft, top salt 1130 ft, set cas 2182 ft. Moody Corp.'s Walters 1, lcn. Skelly Oil Co.'s University 1, elev 2895 ft, top salt 1340 ft, fsh 2795 ft. J. T. White et al's Schafner-Sterling 1, sd 1005 ft.

REEVES COUNTY—Exploration Co.'s A. A. Kinney 1, sd 1340 ft. D. R. Thompson et al's Edd'ns Duff 1-A, elev 2774 ft, co after shot td 4514 ft.

RUNNELS COUNTY—Empire G. & F. Co.'s Gray 1, sd 2300 ft. Gibson-Johnson's Harris 1, lcn; Serratt 1, spd and sd. Griswold et al's Boyer 1, dr 375 ft. Kenwood Oil Co.'s Talley 1, sd 1720 ft. Henry B. May et al's Schneider 1, elev 1666 ft, dr 1120 ft. Miles Oil Co.'s Lawhon 1, sd 2350 ft; Chas. Ray 1, dk. Royal Pet. Co.'s Willingham 1, rig. Swensondale Oil Co.'s Werner 1, elev 1803 ft, dr 1930 ft. Vacuum Oil Co. et al's McMillan 2, lcn. Watchorn O. & G. Co.'s King 1, fsh 1995 ft.

SCHLEICHER COUNTY—Thos. Gray et al's Robinson 1, sd 3150 ft.

TAYLOR COUNTY—A. J. Brown Prod. Co.'s Henslee 1-A, elev 2010 ft, water trouble 2310 ft. Gilbert Johnson et al's Brown 1, sd 835 ft. Owen-Sloan's Latimer 1, fsh 2605 ft. Roeser-Pendleton's Butman 1, set cas 2980 ft.

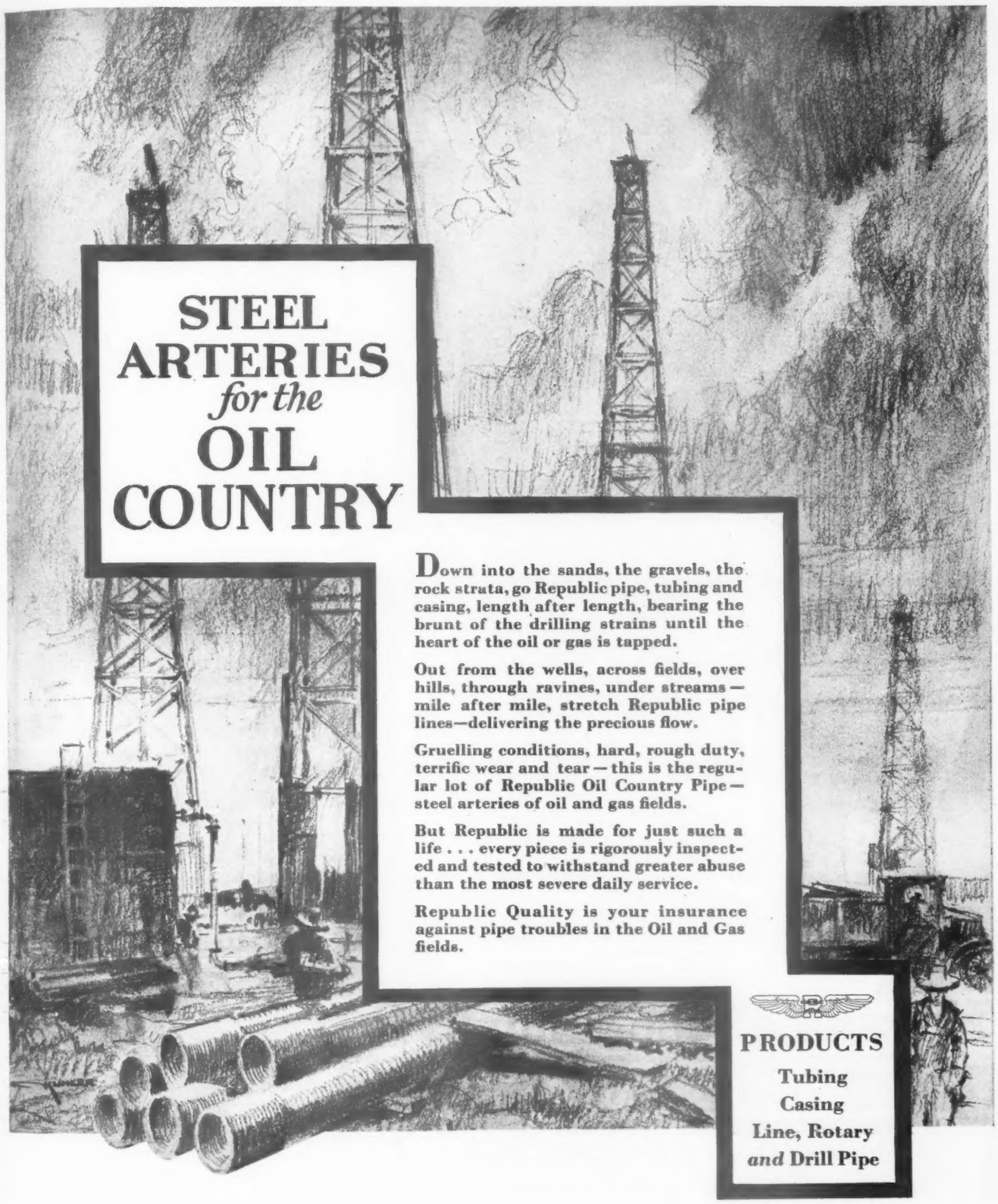
TERRELL COUNTY—Champlin Ref. Co.'s Carter 1, lcn. Deep Rock Oil Co.'s Noelke 1, rig. Humble O. & R. Co.'s University 1, spd and sd. Milham Corp.'s Bassett 1, co 1260 ft.

UPTON COUNTY—Curtis et al's Giddings 2, sd 630 ft. Southern Crude's Hobbs 1, sd 2690 ft. The Texas Co.'s Cordova Union 1, dr 2400 ft.

VAL VERDE COUNTY—Magnolia Pet. Co.'s Whitehead 1, dr 5600 ft. O. O. Owens et al's Henry Mills 1, sd 3980 ft. W. B. Thraves et al's Wilson 1, sd 905 ft.

WARD COUNTY—Selby O. & G. Co.'s Dooley-Rogers 1, dr 110 ft.

WINKLER COUNTY—Amerada Pet. Corp.'s J. B. Walton 1, elev 2833 ft, fsh tools 2409 ft. Atlantic Oil Prod. Co.'s Grisham-Hunter 2, dr 2930 ft; Grisham 3, top lime 2525 ft, cem cas 2534 ft; Grisham 4, dr 570 ft; Grisham 1-C, dr 2725 ft; Grisham 1-E, dr lime 2445 ft; Hendrick 1, fsh bit in oil pay 2830-2936 ft; Hendrick 2-D, dr 2885 ft. Atlantic & J. D. Collett's Hendrick 1-F, dr 1340 ft. California Co. et al's Bashara 1, sd 3503 ft. Cranfill-Reynolds et al's Hendrick 1-B, dr oil pay 2865 ft; Hendrick 1-C, dr 1275 ft. Eastland Oil Co.'s Hendrick 1, sd making oil and gas, td 2715 ft. Gibson-Johnson's Leck 1, lcn. Gulf Prod. Co.'s Hendrick 2, rig; Hendrick 8, dr 1505 ft; Hendrick 9, dr 790 ft; Hendrick 10, rig. Humble O. & R. Co.'s Grisham-Hunter 1, dr by junk 2763 ft; Grisham 3, dr oil and gas pay 2898 ft; Grisham 5, top salt 1415 ft, dr 1910 ft; Hendrick 2-B, dr 275 ft. Independent O. & G. Co.'s Grisham 2, fsh in oil pay 2815 ft; Grisham 3 and 4, lcns; Grisham 5, dr 1230 ft; Grisham 6, dr 895 ft; Grisham 7, dr 1050 ft; Grisham 8, rig; Grisham 1-B, dr 2330 ft; Grisham 2-B, dr 295 ft; Grisham 3-B, rig. Landreth Prod. Corp. & Roxana's Hendrick 1-A, sd 3013 ft; Hendrick 2-A, dk; Hendrick 3-A, dr 1555 ft. Liner Drilling Co.'s Campbell 1, spd and sd. Llano Oil Co.'s Armstrong 1, lcn. Llano and Roxana's Scarborough 2, dk. Magnolia Pet. Co.'s Hendrick 3, dr 2575 ft; Hendrick 4, dr 2500 ft; Hendrick 5, dr 1250 ft; Hendrick 6, dr 215 ft. Murchison Oil Co. and Cranfill Bros. Oil Co.'s Grisham 2, 4 and 1-B, lcns; Grisham 3-B, cem cas 2427 ft; Grisham 4-B, cem cas 2846 ft. Joe Maxwell & L. C. Turman's Hendrick 1, sd in pay 2879 ft; Hendrick 2, flow 40 bbls oil per hour dr pay 2865-80 ft; Hendrick 3, sd storage 2585 ft; Hendrick 4, top salt 1430 ft, dr 2140



STEEL ARTERIES *for the* OIL COUNTRY

Down into the sands, the gravels, the rock strata, go Republic pipe, tubing and casing, length after length, bearing the brunt of the drilling strains until the heart of the oil or gas is tapped.

Out from the wells, across fields, over hills, through ravines, under streams—mile after mile, stretch Republic pipe lines—delivering the precious flow.

Gruelling conditions, hard, rough duty, terrific wear and tear—this is the regular lot of Republic Oil Country Pipe—steel arteries of oil and gas fields.

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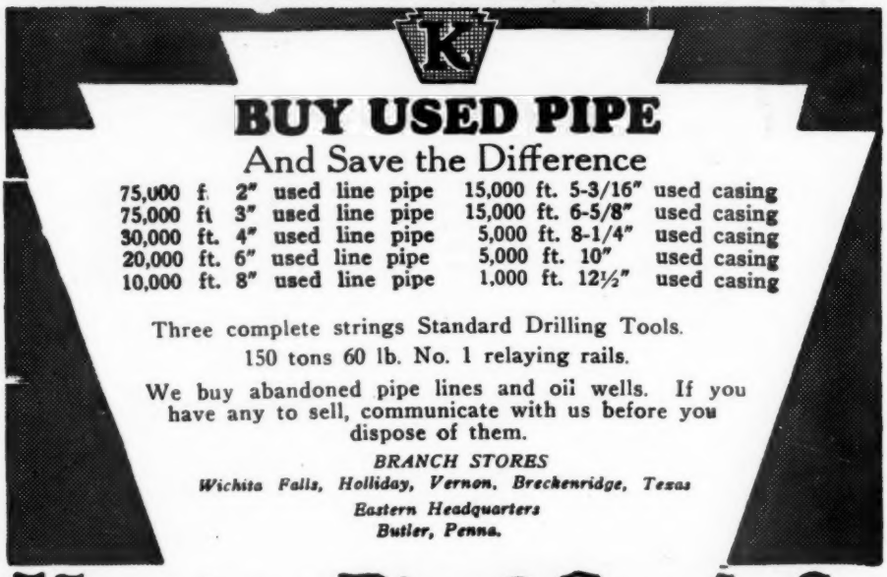
BUY USED PIPE
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75,000 ft. 2" used line pipe
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1,000 ft. 12½" used casing
Three complete strings Standard Drilling Tools.
150 tons 60 lb. No. 1 relaying rails.
We buy abandoned pipe lines and oil wells. If you have any to sell, communicate with us before you dispose of them.
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Now In Use
"High Manganese" RODS
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TULSA OFFICE: 602 WRIGHT BLDG.

ft; Hendrick 5 and 6, lcns. Republic Prod. Co.'s Grisham 2-A, rig; Grisham 1-B, (Sec. 41) sd 1983 ft; Grisham 2-B, sd 2635 ft. Roxana Pet. Corp.'s Grisham 1-A, flowing 780 bbls oil, sd storage 2801-28 ft; Grisham 2-A, rig; Hendrick 1-B, (Sec. 29) co 2960 ft; Hendrick 2-B, dr 900 ft; Hendrick 3-B, rig; Hendrick 2-C, dr 2750 ft; Hendrick 3-C, dr 1455 ft; Hendrick 4-C, dr 1230 ft; Hendrick 5-C, dr 1080 ft; Hendrick 1-D, making 50 million ft gas 2712 ft; Hendrick 2-D, dr 365 ft. Sheldon & Burden's Hendrick 1, elev 2806 ft, top lime 2610 ft, dr 2755 ft. Southern Crude & R. A. Westbrook's Grisham 2-A-T-89, cem cas 2301 ft; Grisham 3-A-T-89, cem cas 2352 ft; Grisham 4-A-T-89, rig; Grisham 2-B-T-88, (Sec. 4) cem cas 2659 ft; Hendrick 1-C-T-88, (Sec. 28) fsh 2869 ft; Hendrick 3-C-T-88, dr with hfo 2795-2950 ft; Hendrick 4-C-T-88, cem cas 2586 ft; Hendrick 5-C-T-88, cem cas 2528 ft; Hendrick 6-C-T-88, cem cas 2528 ft; Hendrick 7-C-T-88, cem cas 2435 ft; Hendrick 1-G-T-88, lcn; Hendrick 1-I-T-88, dr 2605 ft; E. G Cummings 1-T-90, (Sec. 47) top salt 935 ft, dr 1355 ft. Southern Crude & Dixie Oil Co.'s Grisham 1-A-3-T-68, shut-in making 75 million ft gas 2740 ft; Grisham 2-A-3-T-68, sd storage 2288 ft; Grisham 3-A-3-T-68, fsh tools in gas 2400-20 ft; Hendrick 1-A-3-T-67, (Sec. 4) sd 3072 ft; Hendrick 2-A-3-T-67, sd storage 2646 ft; Hendrick 1-B-T-67, dr 2895 ft; Hendrick 5-C-T-67, sd 1770 ft; Hendrick 2-F-T-67, fsh 2197 ft; Hendrick 3-F-T-67, dr 1885 ft; Hendrick 4-F-T-67, dr 1525 ft. The Texas Co.'s Grisham 2, flowing oil, sd in pay 2875-89 ft; Grisham 3, dr 2605 ft; Grisham 1-B, (Sec. 34) sd show oil and gas 2731 ft; Grisham 2-B, sd in oil pay 2808-66 ft; Grisham 3-B, sd making gas 2860 ft; Grisham 4-B, dr 895 ft; Grisham 5-B, rig; Grisham 1-C, dr 330 ft. Texon Oil & Land Co.'s Grisham 2-A, sd making 100,000,000 ft gas 2725 ft; Grisham 3-A, dr plug 2140 ft; Grisham 1-B, (Sec. 45) cem cas 2560 ft; Grisham 2-B, dr plug 2506 ft. White Eagle O. & R. Co.'s Leck-Collins 1, fsh 3260 ft.

Round Mountain

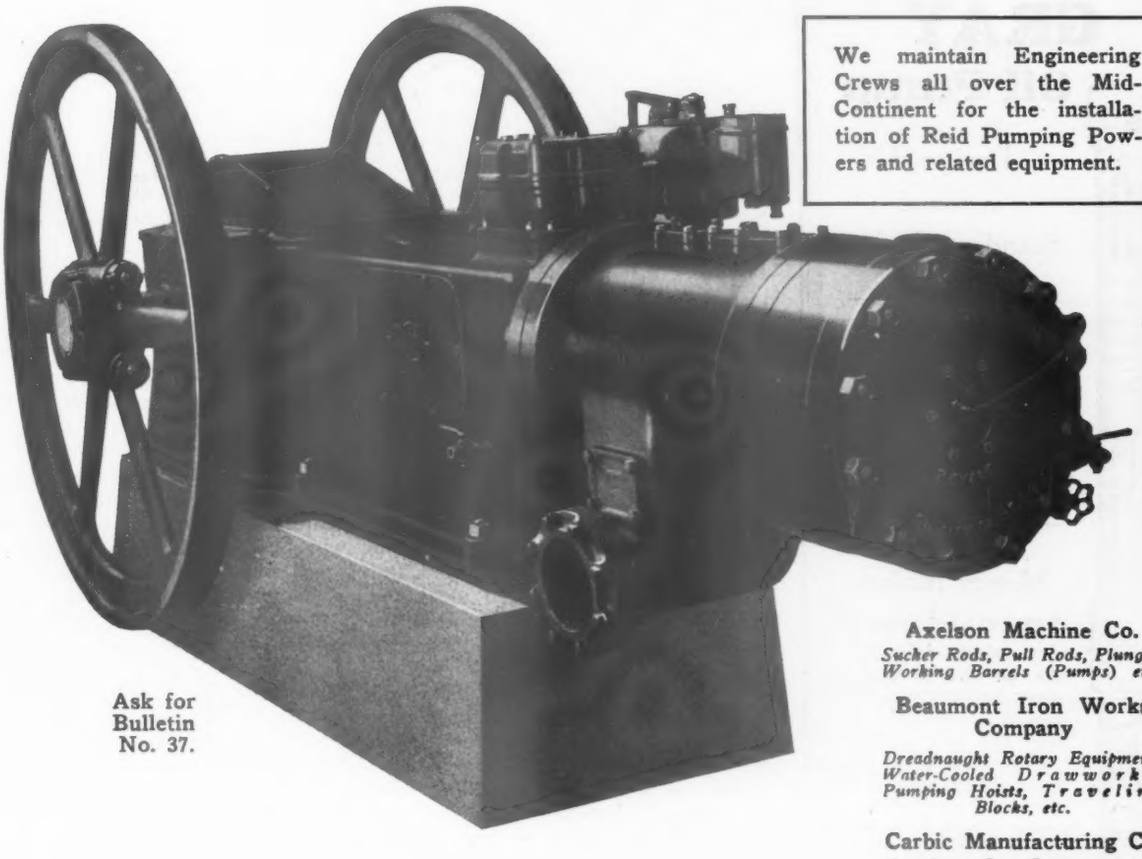
Bakersfield, Calif.—The Superior Oil Company has obtained a lease on a large part of Section 24-29-29, which lies about eight miles southeast of the Round Mountain field, and will soon start a well on its new holdings. The test will be made on the strength of recent geological findings, which indicated that a structure or "high" existed in that particular region. At least two wells have been drilled near the new location, and both reported good showings. Many of the leading oil companies of the state hold leases on all sides of the Superior's lease.

Osage County

Tulsa.—Kay County Gas Company's No. 2 in the northeast of the southwest of Section 22-24n-7e, Osage County, on United States Naval Reserve Land, has been completed for 21,000,000 cubic feet of gas and shut-in. Pay was found at 1199 feet to 1205 feet. The well was drilled for gas only.

Lincoln County

Tulsa.—Shaffer's Skinner 2, in the southwest of the southeast of Section 31-17n-5e, Lincoln County, flowed 752 barrels December 27, cutting 2½ per cent water and b. s. from Wilcox sand found at 4234 feet, and penetrated six feet. This well is approximately seven miles southwest of Cushing.



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The new 40 and 45 HP Two Cycle Gas Engines are designed for heavy duty reverse work. Totally enclosed.

Features: Entirely enclosed bed plate—Splash oiling system—Replaceable main bearings—Bored cross-head guide—New Reid governor, enclosed and running in oil bath—New intake valve on top of cylinder—Improved speed wheel arrangement—Detachable cylinder head—Greater power and economy—Unprecedented speed range.

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YOU GAIN from a dry tubing job . . . the oil that otherwise would be spilled on the ground is saved . . . at least 50% of the tubing jobs are obviated . . . because weight of fluid is eliminated, you pull in 5 hours instead of 8 and ordinarily with 2 lines instead of 3; in proportion to depths of well.

Profit from Neatness

Your men have a higher morale when they work on a dry platform and in dry clothes. This means cheerful work; more work and more profits for you.

GRAY Code of Ethics

We succeed only by assisting our customers to success.

GRAY
TOOL COMPANY
HOUSTON, TEXAS.

New Plant for Halliburton Company

Duncan, Okla.—On account of the growth in the company's business in the oil country that now extends throughout domestic as well as foreign fields, a new manufacturing building and repair shop has been erected by the Halliburton Oil Well Cementing Company here. This building is a Butler building of corrugated steel construction and adjoins the general offices of the company that are housed in a separate structure.

The new building affords 100 by 132 feet additional floor space and new machinery has been installed that is completely modernized by electric motor operation, each machine being an independent operating unit.

The general office building of the company also has been recently enlarged. Erle P. Halliburton is the president and founder of the Halliburton Oil Well Cementing Company and H. Gloeckler is vice-president, H. T. Crain, treasurer. A. D. Stoddard is chief engineer of the company.

The business of Erle P. Halliburton Company, manufacturers of testing and measuring devices, also is carried on from the Halliburton general offices in Duncan.

Spain Proposes Pay for Seized Oil Properties

Washington, D. C.—American oil companies whose properties were expropriated under the decree issued by the Spanish government June 28, 1927, are to be compensated for their physical losses, according to a cable received at the Department of State, December 27, from the American charge d'affairs at Madrid.

The June decree, supplemented by one issued in October, provided for the establishment of an oil monopoly in Spain under government auspices, and since about December 1, the Spanish government has been taking over private installations, including those belonging to foreign concerns.

The Standard Oil Company of New Jersey is the chief American concern affected, it was stated at the department, having had two of its plants, at Valencia and at Alicante, taken over by the government. One other plant at Malaga, largely American owned, also has been seized.

Since the announcement of the first decree, the State Department has been closely watching the situation, and from time to time has issued instructions to the embassy at Madrid to make representations in order to protect American oil properties in Spain. Spanish officials in Washington, in discussing the matter, point out that the question involved is not one of lack of compensation, or confiscation, but rather an issue between the oil companies and the Spanish bankers who are financing the monopoly, regarding the degree of compensation to which the companies are entitled.

The Spanish government, according to the report to the Department of State, not only is prepared to reimburse the companies for the value of the property seized, but also to pay interest from the date of seizure to the date of payment.

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Engineers & Geologists
TULSA, OKLAHOMA

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Cast steel frame with integral feet; prevents breakage.
Roller bearings, grease lubricated; require infrequent attention.
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Short stiff shaft.
Rigid bearing housings of unusual strength.
Sealed stator and rotor windings, resistant to:
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- Salt Air
- Oil
- Moisture
- Dirt

Collector rings on mica insulated cast-iron sleeve.
Cast brass brush holders, tinned to resist corrosion.
Minimum weight, due to extensive use of steel.
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Exceptional pull-out torque.
—and all Allis-Chalmers betterments.

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Eastern Service at Seminole

Seminole wells are deep and costly. Operators there need EXPERTS to do their shooting. Perhaps it is for that reason that we have been called upon to shoot nearly 100 wells there during the past weeks.

No matter if your wells are deep or shallow, they deserve the services of a good shooter. So call an Eastern EXPERT for that next shot.

THE EASTERN TORPEDO OF OHIO CO.

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The Tret-O-litE method is the fast, economical and THOROUGH method of recovering oil from emulsions.

WM. S. BARNICKEL & COMPANY
St. Louis, Mo.

Tret-O-litE

PERMITS

(Continued from page 66)

w line. Moutray Oil Co., Abilence, Flores 23A, S 149, BBB&C sur, 870 ft from n and 430 ft from e line. R. T. Manning, Fort Worth, Hunt 4, S 107, Univ. Lands sur, 150 ft e of 2. Young Bros. & Alexander, Fort Worth, Hatchett 1, S 30, D&D Asy sur, 150 ft from s and w lines. R. W. Manning, Fort Worth, Cottle 7, 2994, TE&L sur, 150 ft from n and e lines.

COOKE COUNTY—J. C. McFarland, Fort Worth, MK&T 1, T. Scott sur.

CORYELL COUNTY—J. K. Yeary, Fort Worth, Powell 1, E. Norton sur, 1800 ft from w and 700 ft from s line.

CROCKETT COUNTY — Humble, Wichita Falls, Sarg 2, S 61, blk BB, T. C. Ry sur, 330 ft from s and w lines. F. N. Furhman et al, Okmulgee, Okla., Clark 1, S 1, GC&SF sur, ne corner.

CHAMBERS COUNTY — Mills Bennett Prod. Co., Houston, Barrow 8, Wm. Bloodgood sur, nw corner.

CALDWELL COUNTY—Magnolia, Dallas, Tiller 11, J. Henry sur, 300 ft sw of 5; Stair 16, J. Henry sur, 300 ft sw of 14.

EASTLAND COUNTY—Nature's Treasure Oil Co., Cisco, Qualls 1, 3188, TE&L sur, 1400 ft from n and w lines. Panhandle Ref. Co., Wichita Falls, Hightower 4, W. Van Norman sur, 300 ft w of 3. H. B. Mays, Eastland, Niver 1, S 2, blk 4, H&TC sur, 450 ft from s and w lines. Schimmel Prod. Corp., Fort Worth, May 1, S 3, blk 4, H&TC sur, 400 ft se of 1A.

FORT BEND COUNTY—Sun Oil Co., Dallas, Farmer 5, J. Scott sur, 150 ft from n and e lines.

GRAY COUNTY—Texas Co., Houston, McCarty 1, S 2, B&B sur, 3400 ft from n and 330 ft from e line. Shamrock Oil Co., Inc., Wichita Falls, Chapman 1, S 50, blk 25, H&GN sur, 330 ft from n and e lines. Texas Co., Wichita Falls, McCarty 1, S 1, blk 1, AC&HB sur, 330 ft from s and w lines; Davis, 2, S 86, blk 3, I&GN sur, 330 ft from s and w lines; Bowers 4, S 93 blk B2, H&GN sur, 330 ft from s and e lines.

HOWARD COUNTY — Schermerhorn Oil Co., Tulsa, Okla., Roberts 1, S 157, blk 29, W&NW sur, 330 ft from s and w lines. Magnolia, Dallas, Hyman 1, S 29, blk 65, W&NW sur, 330 ft from s and w lines.

HARRIS COUNTY — J. S. Southerland, Houston, Qualthrough 1, J. B. Jones sur, center. J. D. Clay, Houston, Moore 20, J. Strange sur, 148 ft from n and 1000 ft from e line.

JEFFERSON COUNTY—Freeport Sulphur Co., Freeport, Big Hills Co. 6, S. Eaton sur, se corner; 7, center of blk 4. Yount-Lee Oil Co., Beaumont, McFaddin 51, T. Humphreys sur, 983 ft from e and 1071 ft from n line. Sun Oil Co., Beaumont, Coit 1, J. Douthitt sur, 17 ft from e and 50 ft from s line; McLean 19, P. Humphreys sur, 100 ft se of 18. Gulf, Houston, Gladys 228, J. A. Veatch sur, 75 ft from s and 22 ft from e line.

JIM HOGG COUNTY—E. St. Albans, Laredo, Lopez 9, No. 1, blk 6, Las Animas sur, 291 ft from e and 180 ft from s line. American Well & Prospecting Co., Corsicana, Palacios 21, S 291, blk 14, center; 22, east of 21.

JACK COUNTY—C. W. Bland, Jacksboro, Roach 2, W. M. Berryman sur, 150 ft from s and e lines. Shaw & Rathke, Wichita Falls, Cullers 7, blk 4, S. P. Ry. sur, 296 ft from e and 506 ft from n line; 6, 415 ft w of 5. Dale Oil Corp., Wichita Falls, Hanna 7, 3316, TE&L sur, 1850 ft from e and 431 ft from s line.

MONTAGUE COUNTY—Bridwell Oil Co., Wichita Falls, Salmon C 2, S. Little sur, 150 ft s of 1. Continental Oil Co., Wichita Falls, Maddox A 25, H. S. Arnold sur, 315 ft w of 24.

McCULLOCH COUNTY — Moss, Keeling, Baker & Hodges, Brady, Dutton 1, S 585, center.

MOORE COUNTY—Amarillo Oil Co., Amarillo, Thompson 1, S 22, blk 26, EL&R 2640 ft from n and e lines.

POTTER COUNTY—Amarillo Oil Co., Amarillo, Masterson 1, S 85, blk 018, D&P sur, 1320 ft from s and w lines.

PECOS COUNTY—Humble, Wichita Falls, Smith 6, S 36, blk 194, GC&SF sur, 1131 ft s of 3; Smith B 4, S 101, 3158 ft from w and and 1842 ft from s line. Roxana, South Bend Smith A 5A, S 27, blk XX, GC&SF sur, 2071 ft from w and 1100 ft from s line. Tippett 5A s 102, T. C. Ry sur 1673 ft from e and 1662 ft, from s line; 6A, 2345 ft from s and e lines; 7A, 330 ft from n and 1616 ft from e line. Gulf, Fort Worth, Smith 6, S 28, blk 194, GC&SF sur, 551 ft s of 2; 7, 660 ft s of 3. California Co., Colorado, Smith 1, S 37, blk 194, GC&SF sur, 275 ft from n and 330 ft from e line.

PALO PINTO COUNTY—T. G. Shaw, Fort Worth, Gilbert 2, A. Williams sur, 150 ft from s and e lines.

RUNNELS COUNTY—McLean, McDonald & Bryant, Ballinger, Clayton 1, No. 135, E. T. Ry sur, 1150 ft from n and 278 ft from w line.

SHACKELFORD COUNTY — Hope O&G Co,. Fort Worth, Reynolds 1, S 26, blk 11, T&P sur, 150 ft from n and e lines.

TOM GREEN COUNTY—World Oil Co., Fort Worth, Pulliman B1, S 25, blk 4, H&TC sur, 330 ft from s and e lines; March 1, S 33, blk 4, H&TC sur, 330 ft from n and e lines.

WICHITA COUNTY — Vergate Oil Co., Tulsa, Okla., Watkins 2, blk 46, W. V. F. L. sur, west central. Texas Co., Wichita Falls, Waggoner 342, N. B. Mead sur, 660 ft e of 336; 341, 1370 ft from n and 330 ft from w line; 343, 1535 ft from e and 100 ft from s line. Archer Oil Co., Wichita Falls, Nelson 1, blk 3, W. V. F. L. sur, 150 ft from n and 534 ft from w line. Texas Co., Wichita Falls, Waggoner A 344, blk 2, T. C. Ry. sur, 563 ft w of 270. Maywood & Maywood, Electra, Fee 1, 195, Wag. Col. sur, 680 ft from w and 150 ft from s line.

WINKLER COUNTY—Pure Oil Co., Mexia, Hendricks B 4, S 34, blk B 5, School sur, 330 ft from n and w lines; Hendricks C 1, S 45, blk 26, School sur, 330 ft from n and w lines. Landreth Prod. Corp., Breckenridge, Hendricks 4 3, S 29, blk B 5, School sur, 660 ft n of 2; Hendricks A 4, same sur, 660 ft w of 3. Gulf, Fort Worth, Hendricks 8, S 34, blk B 5, School sur, 330 ft from s and e lines; Hendricks 9, same sur, 660 ft n of 4; Hendricks 10, same sur, 330 ft from s and w lines. Thurman & Maxwell, Fort Worth, Hendricks 4, S 29, blk B 5, School sur, 990 ft from n and e lines. Gibson & Johnson, Abilene, Dougherty 1, S 3, blk 47, School sur, 330 ft from s and w lines.

WEBB COUNTY—Houston Oil Co., Houston, Benavides C 3, M. Arispe sur, 627 ft from sw and 694 ft from se line. W. O. Wheatley, Laredo, Reiser 1, S 1617, blk 8, 150 ft from s and e lines.

WILBARGER COUNTY—Phillips Pet. Co., Bartlesville, Okla., Waggoner MM3, S 30, blk 4, H&TC sur, 660 ft from n and 152 ft from e line.

WHEELER COUNTY — Wood-Tex, Woodward, Okla., Linkey 2, S 126, blk 23, H&GN sur, 330 ft from w and 660 ft from n line.

YOUNG COUNTY—B. M. Gillespie, Fort Worth, Permit 2825 1, Brazos River sur, sw corner. Robert Oil Corp., Breckenridge, Stewart 1, M. Harmon sur, 150 ft from e and 450 ft from s line. Harry Hines, Wichita Falls, Greeg 1, J. J. Cantwell sur, 150 ft from n and e lines. Pitzer & West, Breckenridge, Callahan 1, P. Pier sur, 200 ft from s and e lines.

Los Angeles.—The San Clemente Oil Company has at last secured a satisfactory water shutoff in its Lawndale wildcat, near Hawthorne. The 6⅝-inch casing was effectively cemented at 5220 feet. It is believed that the well would make a small producer when cleaned out to bottom—5520 feet—but the test will be drilled to 6000 feet, according to reliable reports. A pressure of more than 300 pounds was built up soon after the shutoff test was made.

The over-production of Seminole was brought about largely by the use of the most modern methods of drilling, producing and cementing that science has yet devised. This is true conservation.

HALLIBURTON
OIL WELL CEMENTING COMPANY
DUNCAN, OKLAHOMA

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"LUBRIKUPS" Hard used in deep wells where pressure is sufficient to expand.

"LUBRIKUPS" **Soft** for wells of depth up to 2000 feet where cut oil exists.

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Results and Advantages of A. P. I. Standard Tool Joints

Paper presented at the Chicago meeting of the American Petroleum Institute

By R. A. WILSON
The Guiberson Corporation

IT is a pleasure to me to talk to you today on "The Results and Advantages of Usage of A. P. I. Standard Taper Joints for Rotary and Cable Tool Drilling" and I shall attempt briefly to set out the results of my investigations on the subject.

Representing as I do a manufacturer of both rotary and cable tool special equipment, some of the data collected has possibly more significance to me than to a casual operator. However, every operator cannot but be impressed by the tremendous advantages accruing to both manufacturer and operator alike when the work of the two A. P. I. Committees responsible for these specifications is carefully reviewed.

The first significant fact is the tremendous amount of work in simplification that has been done. Without attempting to review the vast amount of technical and practical research necessary to complete the work, let us analyze what has been accomplished in the elimination of unnecessary sizes.

It is well known that regardless of what kind of taper joint is used by any manufacturer some sort of gage or sample was necessary if any degree of interchangeability of that joint was to be maintained. This practice resulted in some of the manufacturers collecting veritable museums of gages and samples.

The following illustration (Fig. 1) shows a collection of 306 gages and templates for cable drilling tool joints owned by a prominent eastern tool manufacturing company necessary to take care of its trade.

Another illustration (Fig. 2) shows 63 gages and templates on Cable Drilling Tool Joints owned by a prominent Western tool manufacturing company.

Please note this motley assembly! It must have required a librarian to catalogue them all. Again try and visualize what it must have meant to these manufacturers to schedule orders throughout their shops with such an assortment of sizes and shapes. Is it any wonder that mistakes, costly mistakes, were bound to happen? I do not mean to reflect on the workmanship of any of these manufacturers either in the gages they have made or in their product produced from those gages, but when the ramification of warehouse stocks, deliveries, errors in understanding orders are visualized, it is easy to understand the confusion that must have sometimes existed.

Let us now turn to a brighter picture (Fig. 3). This shows the A. P. I. Master gages for cable drilling tool joints. What a relief! Only one size gage and point for a certain size string of tools, whether for California, Wyoming or anywhere in the oil fields. There is no chance for any mistake—the buyer and the manufacturer are speaking the same language.

The foregoing summary may serve to show the results of simplification accomplished on cable drilling tool joints. It should be said here that 52 manufacturers and oil companies have purchased Master gages for cable drilling tool jonits.

Let us now turn to the situation that prevails on rotary drilling taper joints in which a similar condition exists.

The following illustration (Fig. 4) illustrates the various sizes of gages used by a prominent western manufacturer, 59 in all.

Following this illustration, is another from a prominent South Texas manufacturer (Fig. 5), which shows the miscellaneous assortment of gages necessary to carry on his business. Let it be said here also that these gages merely cover two or three sizes of drill pipe, i. e., four-inch and six-inch and a few five-inch and three-inch. As a matter of fact, investigations of the committee showed that in the South Texas District alone there were 28 different sizes of taper joints used for four-inch drill pipe.

The following illustration (Fig. 6) also shows a group of gages owned by another manufacturer in South Texas. Twenty-eight in all were necessary to meet the demands of his trade. Taking the country as a whole, I believe it is a fair statement to make that there were in excess of 100 sizes of taper joints used for rotary drilling with the resulting confusion to the operator and manufacturer pointed out above.

Let us again turn to the brighter part of this picture (Fig. 7) in which we have graphically drawn the seven sizes of taper joint gages for rotary drilling adopted by the Institute as a standard. These gages are not yet available to the trade as the group order is now in the process of manufacture in the East with a large gage manufacturer. It is gratifying to report, however, that practically every manufacturer of rotary tools of consequence in this country is included in this group order, a total of 35.

I have included in this review the situation as it appears to me in this country but the picture would not be complete without pointing out the distribution of A. P. I. gages among the foreign fields. Practically all the principal foreign manufacturers of tools have also purchased gages. The significance of this fact is that A. P. I. standards are not only confined to this country but they are international and are being introduced throughout the world wherever oil is found.

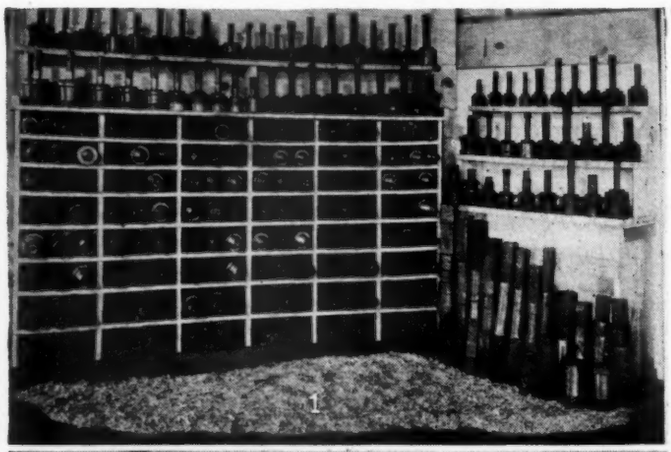
Practical Advantages

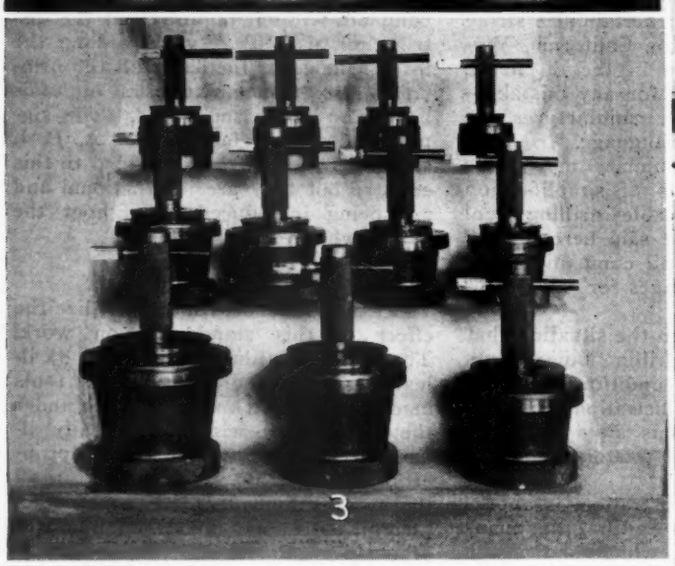
Let us now endeavor to visualize the effect of this standardization work. The following illustration (Fig. 8) illustrates a string of cable drilling tools made by different manufacturers under the old system which graphically illustrates the inconvenience of improperly mated joints. Of course, if all the tools are made by one manufacturer, it is to be assumed that they will properly go together. This picture is based on the assumption that the different tools have been purchased from different manufacturers as is often necessary in rush periods. The next slide (Fig. 9) illustrates the same string of tools made by different manufacturers with A. P. I. standard joints, properly mated and screwed together ready for service.

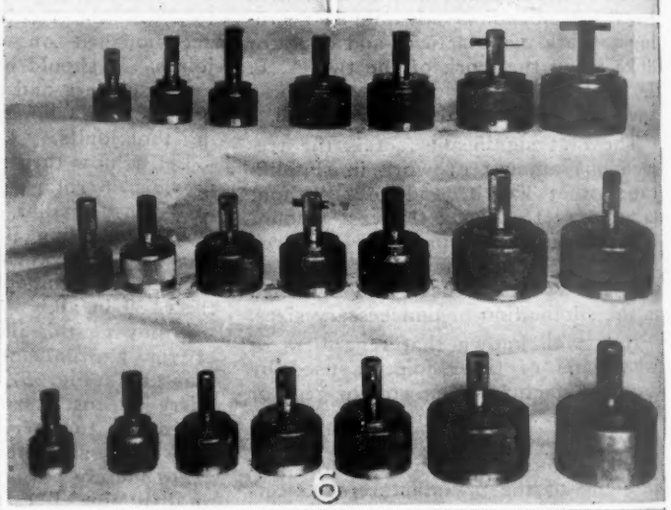
From the larger operators' viewpoint standardization of taper joints is accomplishing many other advantages.

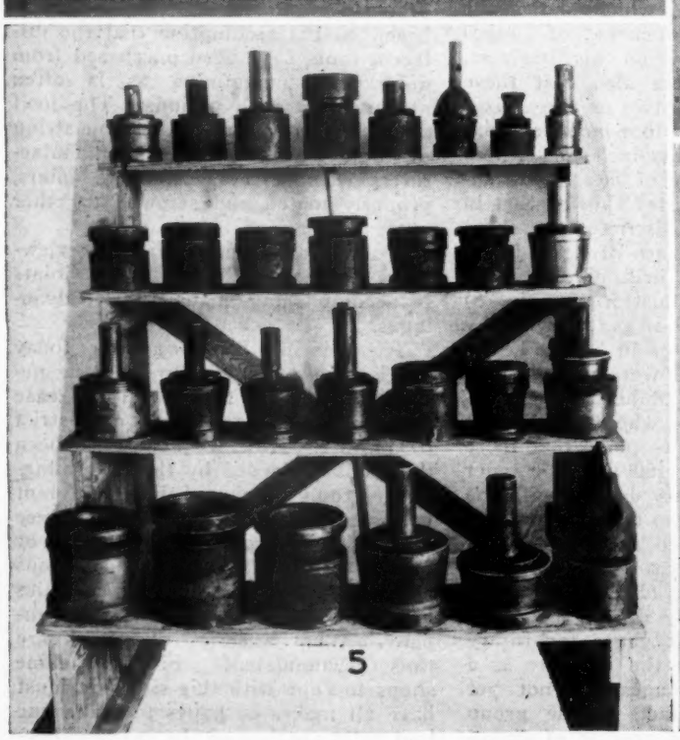
There is no large operator today but is faced occasionally with the necessity of moving tools from one lease to another or even from one district to another. How frequent have been the troubles caused by this intermingling of tools purchased under different specifications, due either to difference of ideas or different superintendents or due to the fact that many and various small producing or drilling properties have been purchased by a larger company. What a series of misfits are thus accumulated! Field machine shops to cope with this situation must have all makes of gages to make one tool to fit another or the entire collection of misfits must all be turned to fit the standards used on the property to which they are moved. With A. P.

EFFECT OF STANDARDIZATION ON MANUFACTURE









1—306 cable tool gages and templates owned by a prominent eastern tool manufacturing company. 2—63 cable tool gages and templates owned by a prominent western tool manufacturing company. 3.—Eleven A. P. I. cable tool gages. 4.—59 rotary tool gages used by a western manufacturer. 5.—Rotary taper joint gages owned by a prominent southern manufacturer to take care of his trade. 6.—28 gages owned by a prominent manufacturer in South Texas for rotary tools. 7.—A. P. I. standard rotary drilling taper joints.

PRACTICAL FIELD BENEFITS FROM STANDARDIZATION

Cable Tool String

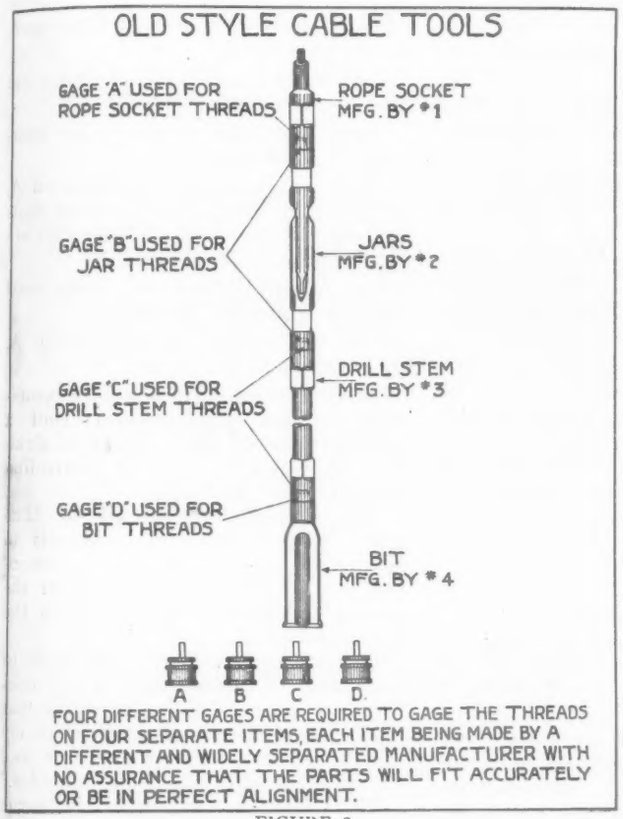

OLD STYLE CABLE TOOLS
GAGE 'A' USED FOR ROPE SOCKET THREADS
ROPE SOCKET MFG. BY #1
GAGE 'B' USED FOR JAR THREADS
JARS MFG. BY #2
GAGE 'C' USED FOR DRILL STEM THREADS
DRILL STEM MFG. BY #3
GAGE 'D' USED FOR BIT THREADS
BIT MFG. BY #4
A B C D
FOUR DIFFERENT GAGES ARE REQUIRED TO GAGE THE THREADS ON FOUR SEPARATE ITEMS, EACH ITEM BEING MADE BY A DIFFERENT AND WIDELY SEPARATED MANUFACTURER WITH NO ASSURANCE THAT THE PARTS WILL FIT ACCURATELY OR BE IN PERFECT ALIGNMENT.

FIGURE 8.

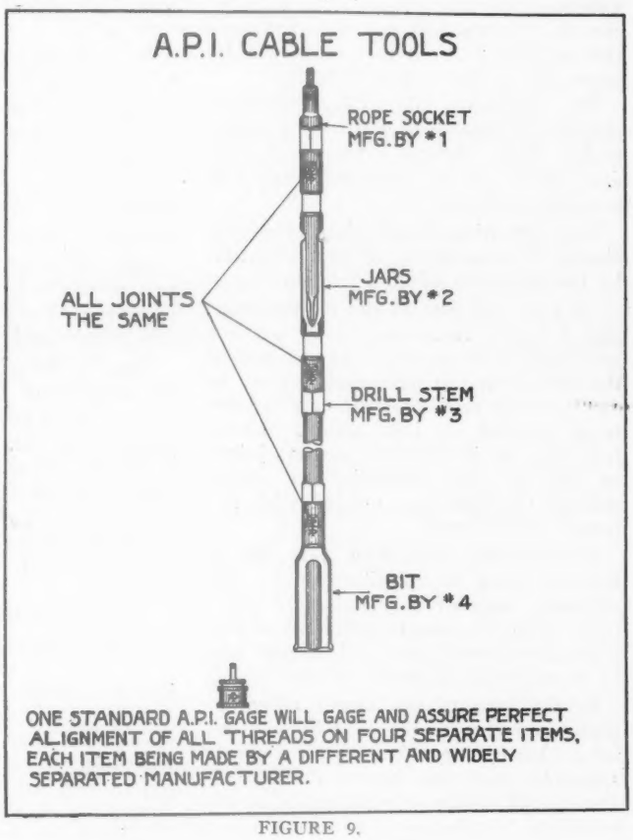

A.P.I. CABLE TOOLS
ROPE SOCKET MFG. BY #1
ALL JOINTS THE SAME
JARS MFG. BY #2
DRILL STEM MFG. BY #3
BIT MFG. BY #4
ONE STANDARD A.P.I. GAGE WILL GAGE AND ASSURE PERFECT ALIGNMENT OF ALL THREADS ON FOUR SEPARATE ITEMS, EACH ITEM BEING MADE BY A DIFFERENT AND WIDELY SEPARATED MANUFACTURER.

FIGURE 9.

Rotary Drill Stem

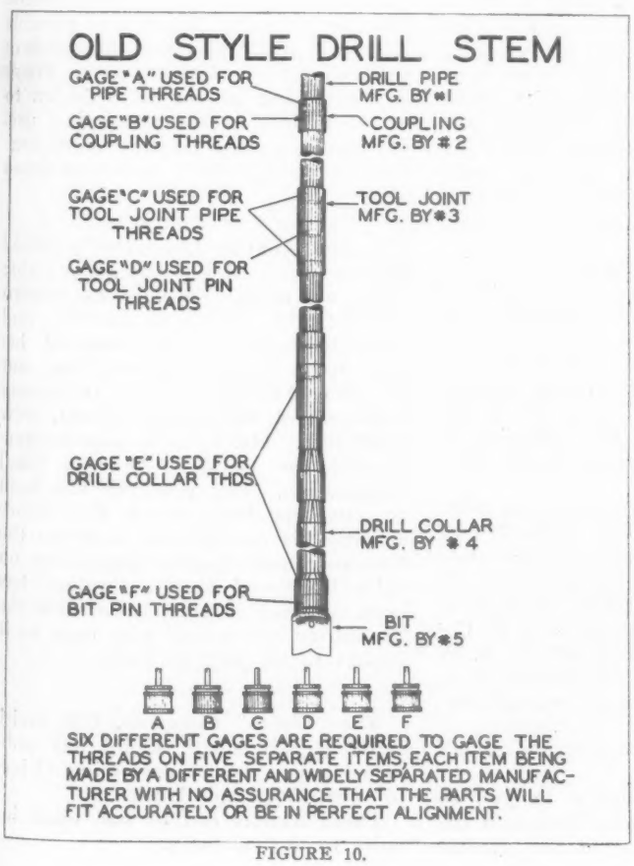

OLD STYLE DRILL STEM
GAGE "A" USED FOR PIPE THREADS
DRILL PIPE MFG. BY #1
GAGE "B" USED FOR COUPLING THREADS
COUPLING MFG. BY #2
GAGE "C" USED FOR TOOL JOINT PIPE THREADS
TOOL JOINT MFG. BY #3
GAGE "D" USED FOR TOOL JOINT PIN THREADS
GAGE "E" USED FOR DRILL COLLAR THDS
DRILL COLLAR MFG. BY #4
GAGE "F" USED FOR BIT PIN THREADS
BIT MFG. BY #5
A B C D E F
SIX DIFFERENT GAGES ARE REQUIRED TO GAGE THE THREADS ON FIVE SEPARATE ITEMS, EACH ITEM BEING MADE BY A DIFFERENT AND WIDELY SEPARATED MANUFACTURER WITH NO ASSURANCE THAT THE PARTS WILL FIT ACCURATELY OR BE IN PERFECT ALIGNMENT.

FIGURE 10.

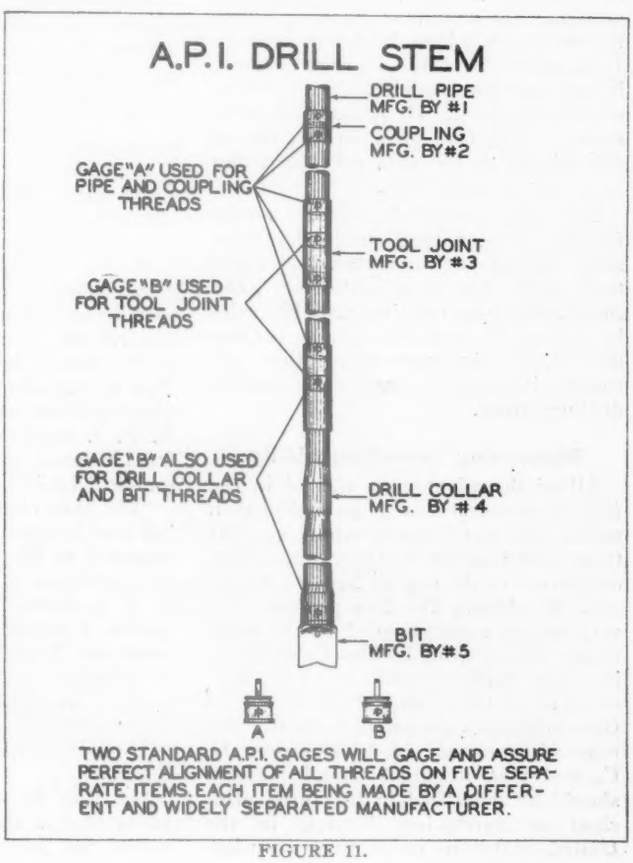

A.P.I. DRILL STEM
DRILL PIPE MFG. BY #1
COUPLING MFG. BY #2
GAGE "A" USED FOR PIPE AND COUPLING THREADS
TOOL JOINT MFG. BY #3
GAGE "B" USED FOR TOOL JOINT THREADS
GAGE "B" ALSO USED FOR DRILL COLLAR AND BIT THREADS
DRILL COLLAR MFG. BY #4
BIT MFG. BY #5
A B
TWO STANDARD A.P.I. GAGES WILL GAGE AND ASSURE PERFECT ALIGNMENT OF ALL THREADS ON FIVE SEPARATE ITEMS. EACH ITEM BEING MADE BY A DIFFERENT AND WIDELY SEPARATED MANUFACTURER.

FIGURE 11.

I. standards adopted, tools may be moved from Pennsylvania to California or Texas to Wyoming and be fitted into their new companions without delay or machine shop expense. Equipment will never become obsolete for the reason that joints will not fit. Inventories will be reduced and tools will be worn out to the economic limit.

The following slide (Fig. 10) is a similar illustration of a string of rotary tools. This illustrates the inconvenience again of the various tools not properly mating.

The following illustration (Fig. 11) shows the correction of this situation by the adoption of A. P. I. standards.

To those of you in the oil business, and I know there are many present who have had practical experience in the field, it is not necessary for me to dwell on the number of times you have been delayed or had serious fishing jobs due to improperly mating joints or due to your inability to secure quickly the tool you needed with the proper sized joint.

Commenting generally just for a moment that standardization of this character may or may not have interfered with the private initiative of any particular manufacturer, I should like to mention the following facts:

In the case of the larger manufacturer, it seems to me that he has the advantage of concentrating on a single standard, and also has a further advantage of selling certain parts of his complete equipment to purchasers more flexibly than he could under the old system where his particular type of connection might not interchange with the connection of another manufacturer with which it should operate. It broadens his field of selling without in any way interfering with the design of the tool itself. He can sell his grief stem, swivel, tool joint, drill collar or fish tail bit as the case may be, either as a part or as a unit.

Take the case of the smaller manufacturer located in a single field possibly specializing in certain individual tools with his own particular joint. Standardization can increase his sales by making his material suitable for any district, as his taper connection will readily interchange into the complete drilling string.

Maintaining Interchangeability

All of the advantages recited in the foregoing could easily be nullified if means had not been provided so that these gages owned by the various manufacturers could not be kept to standard. Machinery for this purpose was very wisely recommended in the early stages of the work by the Cable Drilling Tool Joint Committee. They recommended there should be a set of Grand Masters deposited with the Bureau of Standards in Washington, D. C., and that Regional Grand Masters should be deposited in the three principal oil producing districts in the United States in order that manufacturers could check their gages from time to time and see that they were within the projection limits specified. The following illustrations serve to show the methods used in maintaining interchangeability in the Eastern District.

Fig. 12—Necessary Equipment for Checking Gages.

Fig. 13—Cleaning Ring and Plug with Gasoline before Assembling Gages.

Fig. 14—Gage Assembled in the Vise About to be Tightened by Means of Torque Hammer.

Fig. 15—Illustrating Torque Hammer with Weight Released; This Operation is Repeated Until no Further Movement is Noticeable.

Fig. 16—Checking Depth Gage Used for Measuring Projection.

Fig. 17—Checking Projection with Depth Gage Shown in Fig. 5.

Fig. 18—Reading Micrometer Depth Gage Immediately After Gages Have Been Properly Mated.

Fig. 19—Gage Again in the Vise, to be Unscrewed.

Cost of Gages

It may be of interest to know the amount of money expended to date on gages. The records of the Division of Standardization show practically $500,000.00 has been spent for Master and Working gages of all kinds, pipe, taper joints, etc., in the petroleum industry. Of this amount practically $75,000.00 has been expended for cable tool joint Master gages and in excess of $50,000.00 more will possibly be spent for rotary drilling taper joint gages. In addition to this a similar amount is necessary for the working gages in the shops, so therefore, it is safe to say that practically $250,000.00 has been or is being expended by manufacturers and operators alike for Master and Working gages to make these taper joint standards effective throughout the industry.

Actual Results

What has actually been accomplished to date in getting these standards into general use? I quote below from some of the letters recently received by Mr. Pew in response to his recent general circular about extending the use of the A. P. I. standards. The following is from a large oil company in the Wyoming District:

"We have changed most of our drilling tool joints to A. P. I. and will recommend to the management that they change other material over to the A. P. I. as soon as possible. I think it will be a wonderful thing when all the operators have changed over to A. P. I. material. All the changes we have made to date have been very satisfactory."

Here is another from the Wyoming District:

"It may be of interest to you to know that in the Rocky Mountain Division we have changed the greater part of the cable tool joints to A. P. I. Standards, and we are changing over all of our equipment as fast as it is practical to do so. All of our cable tools now in use in the Big Horn Basin carry A. P. I. joints."

The following is from a large operator in California:

"Where we use cable tools we use the A. P. I. taper joints."

Here is another from a large operator in Wyoming:

"We have standardized 100% on A. P. I. drilling tool joints both on tools that we purchase and on tools that are made in our own shops."

The following is from a large company in Houston, Texas:

"All new orders placed specify A. P. I. standards."

The following extract from a prominent Eastern manufacturer (not a manufacturer of cable tools) is significant however by way of illustrating co-operation. He says:

"Our suggestion to all is 'The quickest way to change over—is to change over', which we did at once."

The following is from one of the largest independent producers in the Mid-Continent:

"We are cooperating in this work to the extent of our ability and will continue to do so, having in mind that this is the one way in which economy can be secured in the purchase and use of oil field material and supplies."

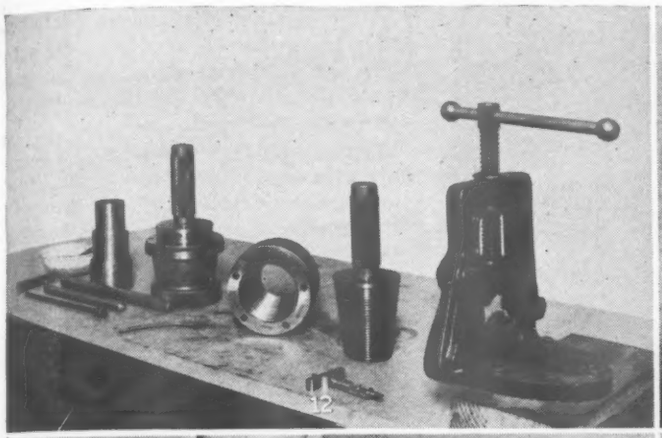
The following facts should be borne in mind: These standards were prepared by men experienced in the business, not only from the consumers' point of view but of the manufacturers. The most expert assistance possible has been secured in the manufacture and calibration of the gages. There seems nothing left for us to do but to put them into everyday practical use. Personally speaking, I can see no logical argument against standardization of this kind.

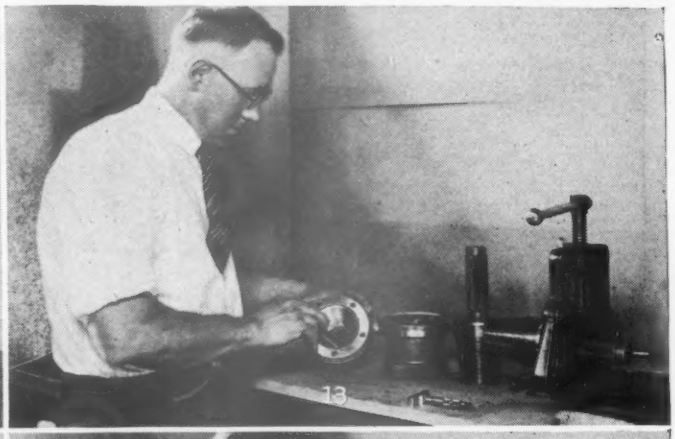
George Klingler has recently joined the sales force of The American Cable Company, in the capacity of eastern oil field wire rope representative and research engineer. He assumed his new duties January 1, operating out of The American Cable Company headquarters, 105 Hudson Street, New York City. Mr. Klingler was formerly with the Wickwire Spencer Steel Corporation. For years he has been an active member of the A. P. I. More recently his constructive work on the Eastern Standardization Committee on Wire Rope and Manila Cordage has been accepted in connection with the application and use of wire rope as it applies to oil well drilling.

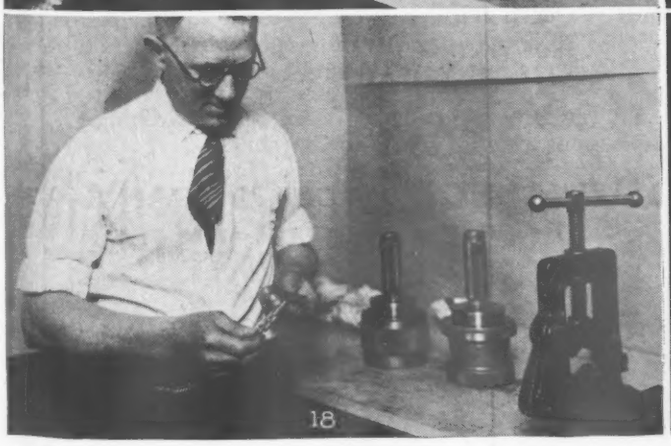
The "Ejecto" Company, 1108 Keith Building, Cincinnati, Ohio, has published a new leaflet describing "Ejecto" centrifugal spiral drips.

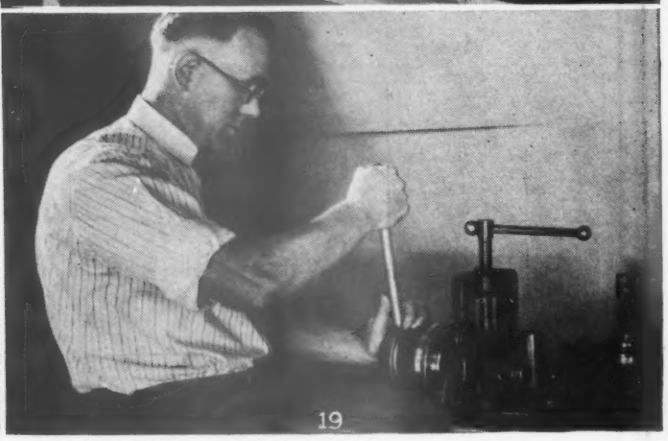
These leaflets can be had upon inquiry to the company.

EQUIPMENT AND METHODS FOR CHECKING GAUGES









12.—Necessary equipment for checking gages. 13.—Cleaning ring and plug with gasoline before assembling gages. 14.—Gage assembled in the vise about to be tightened by means of torque hammer. 15.—Illustrating torque hammer with weight released; this operation is repeated until no further movement is noticeable. 16.—Checking depth gage used for measuring projection. 17.—Checking projection with depth gage shown in Figure 5. 18.—Reading micrometer depth gage immediately after gages have been properly mated. 19.—Gage again in the vise, to be unscrewed.

MEMBERS OF AXELSON ORGANIZATION AT THE BANQUET BOARD

Axelson Crowd Enjoys Christmas Banquet

Los Angeles.—Gathering at the annual festive board for an evening of fun and jollification, 53 members of the Alexson Machine Company enjoyed their seventh annual banquet, given by the company at the Biltmore Hotel, December 22.

As toastmaster, General Sales Manager Clyde Ellwood presented James W. Foley, the poet philosopher, who addressed the boys in his colloquial manner.

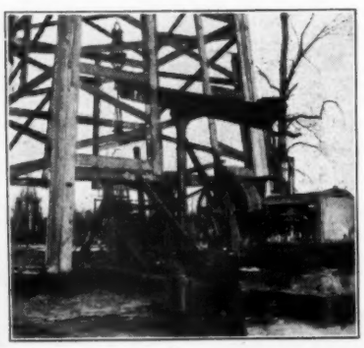
Jule C. Alexson, the president and general manager, gave a short talk congratulating the members of the organization upon their fine work during 1927, and reported that the sales during the year far exceeded those of any previous year.

H. D. Young, who is president of the Employees' Welfare Association, responded and spoke of the work of the association, assuring the executives of the company that the continued cooperation of each employee was certain and that even greater results were to be accomplished during the coming year.

Clyde Ellwood spoke of the many improvements that had taken place, and gave a resume of the accomplishments in the sales department.

After the banquet and short talks, the evening was given over to the presentation of special entertainment, and bonus checks were distributed to the company's guests.

Those attending the banquet were: Jule C. Axelson, president; C. F. Axelson, vice-president; Delbert F. Axelson, vice-president and assistant general manager; Clyde Ellwood, general sales manager; E. E. Kerfoot, secretary; Wm. H. Laury, chief research engineer; A. G. Haglund, works manager; Wilhelm Jardh, chief engineer; W. H. Jackson, purchasing agent; D. H. Barnwell, California sales manager; C. J. Huyck, Archie Hood, R. M. Humphries, D. E. Lingenfelter, F. J. Olsen, R. E. Imhoff, H. S. Kelley, A. T. Spiher, Chas. Drenk, Al Zimmerman, Vic Capon, H. D. Young, John H. Doane, R. Holton, D. N. Bishop, E. J. Phillips, D. G. Gall, W. N. Youngblood, Stanley Morrish, John Leak, Al McConville, S. L. Nichols, R. S. Mosher, Fred Krage, K. S. Ramey, R. McKown, Jimmie Griffin, M. Fleming, Vic Manensco, E. N. Ostrom, Thos. Cass, B. F. Platts, Thos. Duffs, Jaff Walker, Guy Chaffee, Bill Coertz, C. H. Framme, Bill Kinder, W. A. Porter, R. O. Beeson, Chas. Dahl and Silas R. Kimberly.



PARTS STATIONS

Boston (25), Mass.—Standard Auto Gear Co., 531 Columbia Road.
Buffalo, N. Y.—Edward W. Rode, 45 A. St.
Cleveland—Ohio Engine Parts and Service Co., 1053 E. 61st St.
Chicago—Motive Parts Co. of America, Inc., 2419 Indiana Ave.
Des Moines—Motive Parts Co. of America, Inc., 1204 W. Grand Ave.
Detroit—Whitney Brothers, 6464 Epworth Blvd.
Los Angeles—Coast Machinery Corporation, 406 E. Third St.
New York City—E. George & Co., Broome & Wooster Sts.
Philadelphia, Pa.—Maerky Machine Works, 240 Cherry St.
Pittsburgh, Pa.—Motive Parts Co. of Pa., 6314 Penn. Ave.
Raleigh, N. C.—Motor & Equipment Co., 215 E. Davie St.
San Francisco—F. Somers Peterson Co., 57 California St.
Tampa, Fla.—Motive Parts Co. of Florida, Inc. 708 Twiggs St.
Tulsa, Okla.—Buda Engine Service Co. of Tulsa, Inc.

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Any load intended to be handled by an oil field production machine can be started and carried through a Twin Disc clutch without harmful shock or strain to any part of the machine.

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Ask for demonstration. We welcome searching questions about Twin Disc Clutches.

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TWIN DISC CLUTCHES

Youngest Drilling Crew Made 36 Feet and Got What They Went After

THE indomitable spirit of American youth has been found in the oil industry. Four brothers, sons of R. H. Reynolds, drilling contractor of Hominy, Oklahoma, hold the record today of being the youngest drilling crew in the world. They drilled a 36-foot water well in their back yard, completed it as a producer and put in on the pump in three months and seven days, using a mulberry tree to serve in part as the derrick, specially planned and made equipment for the job, and boy power.

Drew Reynolds, oldest member of the strip crew, was 11 years old, Nowery, nine; Jerry, eight; and Ray, six. The respective ages and sizes of the boys naturally outlined at the beginning of plans the various jobs and titles of the crew, yet there still remains some doubt as to which was actually the driller and who the tool dresser. At any rate Eldora, a sister to the famous crew, who is 18 months Drew's senior, deserves credit for indirectly supervising operations, ironing out all arguments, and the like. And, incidentally, she is the photographer who snapped the accompanying photographs. In effect, she deserves credit at least for being publicity director of the piece-meal drilling company that has won honorary standing in the world of well drillers.

Chips off the old block—these wholesome American boys who followed in their father's footsteps, accomplising through inheritance, plus creative ideas and the desire to do, a feat that stands out as one for the sturdiest of men. Now "Rube" Reynolds, widely known throughout the Eastern and Mid-Continent fields as a drilling contractor, has something to be proud of. He is certainly contributing his share of talent to the oil industry.

When the "baby drilling crew" presented their plans to Rube he offered encouragement rather than objection—in the face of strong possibilities for a bum job that promised off-hand to end in wasted effort and disgust for the trade he had followed to wide success. He didn't forget his wild ideas of boyhood, and so gave power to the project to the extent of offering certain tools especially made for the wildcat undertaking. He made arrangements with Charles Bailer to make the bit, stem and bailer, little more than sample size.

Location for Reynolds 1 was staked in the shade of the old mulberry tree, on Lot 13, Block 27, Hominy, Osage

Here's the world's youngest crew, who drilled a water well 36 feet deep and put it on the pump in three months and seven days. They are, left to right; Drew Reynolds, 11; Nowery Reynolds, nine; Jerry Reynolds, eight; and Ray Reynolds, six; of Hominy, Oklahoma, sons of R. H. "Rube" Reynolds, drilling contractor well known throughout Eastern and Mid-Continent fields.

County, Oklahoma. The well record, kept by Drew Reynolds, shows the setting of nine feet of four-inch National pipe. The well log, though not available in the files of the Oklahoma Corporation Commission shows the following formations:

Black soil	00 to 2 ft.
White clay	2 ft. to 5 ft.
Red rock	5 ft. to 8 ft.
Gray lime	8 ft. to 11 ft.
Broken lime	11 ft. to 19 ft.
Black lime	19 ft. to 21 ft.
Sand	21 ft. to 25 ft.
First water	23 ft.
Lime	25 ft. to 28 ft.
Sand	28 ft to 36 ft.
Second water	31 ft.

Hole full of soft drinking water and cannot be pumped dry.

After staking the location the boy crew constructed and erected the equipment to conform to their particular ideas of well drilling. They placed their Sampson post, walking beam and pitman and bull wheel and sand reel, and boy power was fired up with the pep that was ready to undertake this novelty job. The pitman was operated by boy power, each of the four taking his turn at serving as the human engine, and the cable tool drilling motion dropped the tools in as perfect a drilling form as seen in the boom field.

The job was in no wise a rosy one. Fishing jobs were numerous, and due to the original hole caving, the rig had to be skidded. The second hole went down in better shape, experience from the first being used against former operating methods. This time the nine feet of casing prevented surface formation cavings. A Swan underreamer was considered in the event a lowering of the pipe became necessary, but further trouble did not require it. The four-inch pipe remains in the hole today with the well on a hand pump, and helping to supply the family's water supply, especially at times when the Hominy water system does not suit them. Fishing tools used on the job were planned and made by the members of the crew. And they are interesting pieces of crude workmanship, these products of the boy brains that sufficed to solve the problems that threatened to spoil their record well.

This feat of the four Reynolds huskies deserves mention as more than that of a freak accomplishment. It is a clean-cut pattern of the identical type of work done back in the days when Pennsylvania was giving to the world a new industry, which through this type of work and originailty has shown its rapid climb to the rank of second among industries. More power to these four stripling pioneer wildcatters—drillers deluxe in the making!

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Cable Company Opens Mid-Continent Branches

New York. — The American Cable Company, with headquarters here, announces that several agencies have been established recently, to handle Crescent and Tru-Lay wire line in the Mid-Continent.

The following supply companies are now ready to give immediate service on both products: Atlas Supply Company, Muskogee, Oklahoma, and Fort Worth, Texas; Marion Machine, Foundry and Supply Company, Tulsa, Oklahoma; The Farley Machine Works Company, Arkansas City, Kansas; Mid-Continent Supply Company, Houston.

In addition to the above, new distributor sales representatives are located in Tulsa, where the Mid-Continent district office is located, Ponca City, Oklahoma, and Fort Worth.

Distributors' stocking points are located in practically all oil field cities in Kansas, Oklahoma, Texas, New Mexico, Louisiana and Arkansas.

Copies of a new book, "The Application of Wire Rope to Oil Field Equipment," may be secured by addressing The American Cable Company, 105 Hudson Street, New York City.

Rio Bravo to Pay Five Per Cent Bonus

Houston, Texas.—At a Christmas tree given for employes of the Rio Bravo Oil Company, here, on Christmas Eve, it was announced by the company management that a five per cent bonus would be paid for 1927.

Rio Bravo is the producing subsidiary of the Southern Pacific Railroad and operates extensively in the Texas Gulf Coast.

Joseph S. Mitchell, of the Sullivan Machinery Company, died December 22, following an attack of acute indigestion. Mr. Mitchell had been at the head of the Diamond Drill Department of the Sullivan Machinery Company for a number of years. He is said to have been remarkably well posted on the science of diamond drilling in all its phases.

Specialty Sales Company, Inc., 1101 Spring Arcade, Los Angeles, announces that after January 1, 1928, the warehouse and office of the company will be combined in a new address, at 316 Commercial Street. All communications should be sent to the new location. Specialty Sales Company is distributor for The Larkin ball and seat valve.

FOR SALE—One Bravo Sullivan Core Drilling Outfit complete with Carbons and Equipment. Outfit is in first class condition and will core to 600 feet. Priced low. For particulars write, or wire, H. E. Harvey, Care Radcliffe Oil Company, 414 Mid-Continent Building, Tulsa, Oklahoma."

IDLE PORTABLE
SOUTHWESTERN EQUIPMENT
for Refineries and Gasoline Absorption Plants, Condensers, Heat Exchangers, Fractionators, Stills, Absorbers and Complete Plants priced to move
W. F. PYNE,
909 So. Ardmore Ave., Los Angeles, Calif.

THE FT. WORTH LABORATORIES

Field Gas Testing. Analysis of oil field brines, gas minerals and oil. Sell Thermometers, Hydrometers and Laboratory Glassware
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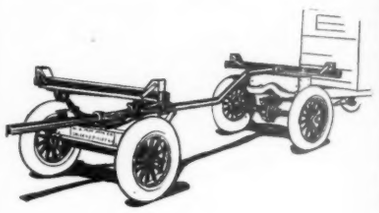

MAY
ALL-STEEL
TRAILERS

1 to 10 Tons

Built to withstand the roughest and hardest kind of service in the production of oil.

Our engineers will gladly assist you in solving difficult transportation problems.

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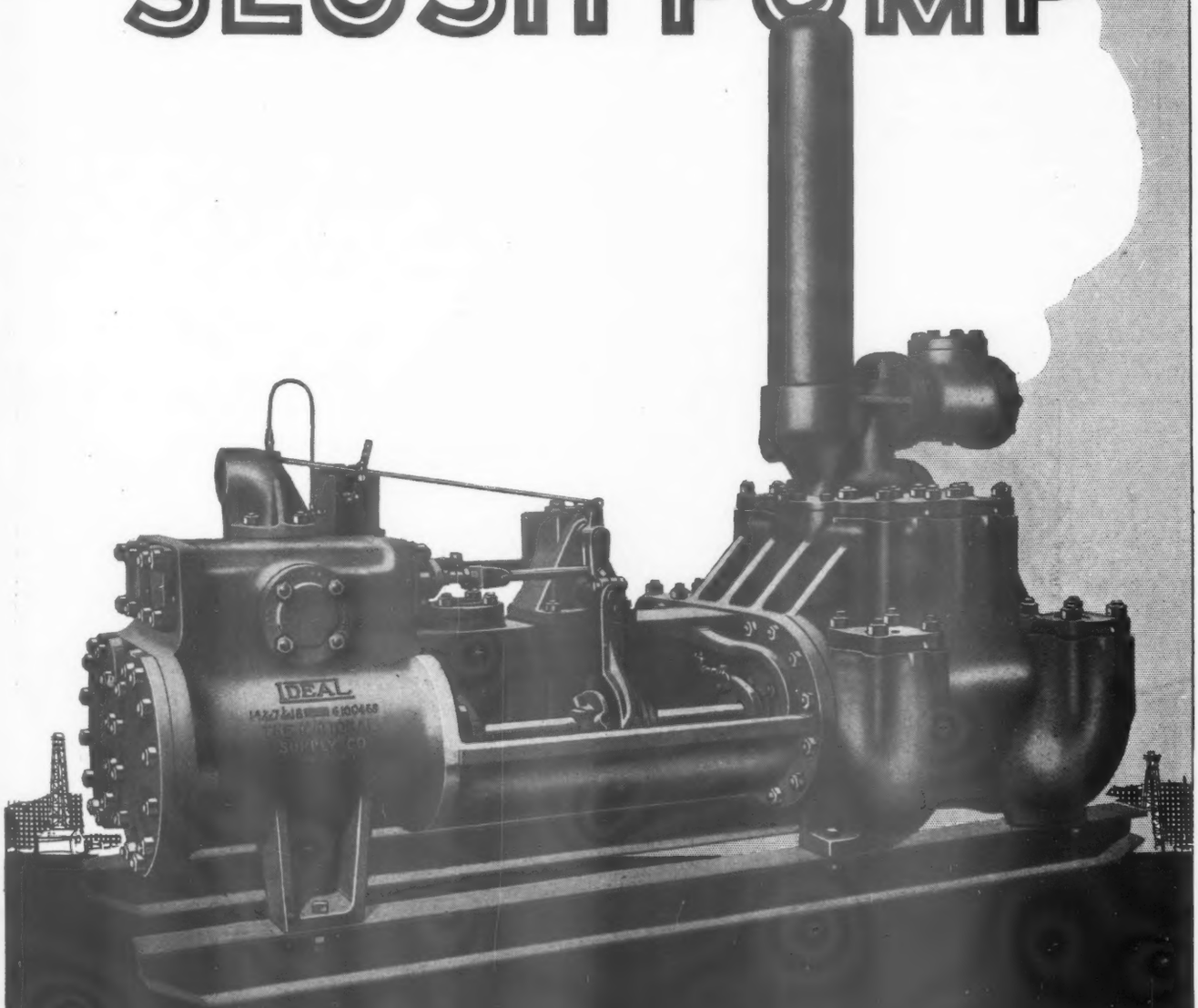
MFG. CO., Inc.
Shreveport, La.

IDEAL

14½ X 7½ X 18

DUPLEX SLUSH PUMP



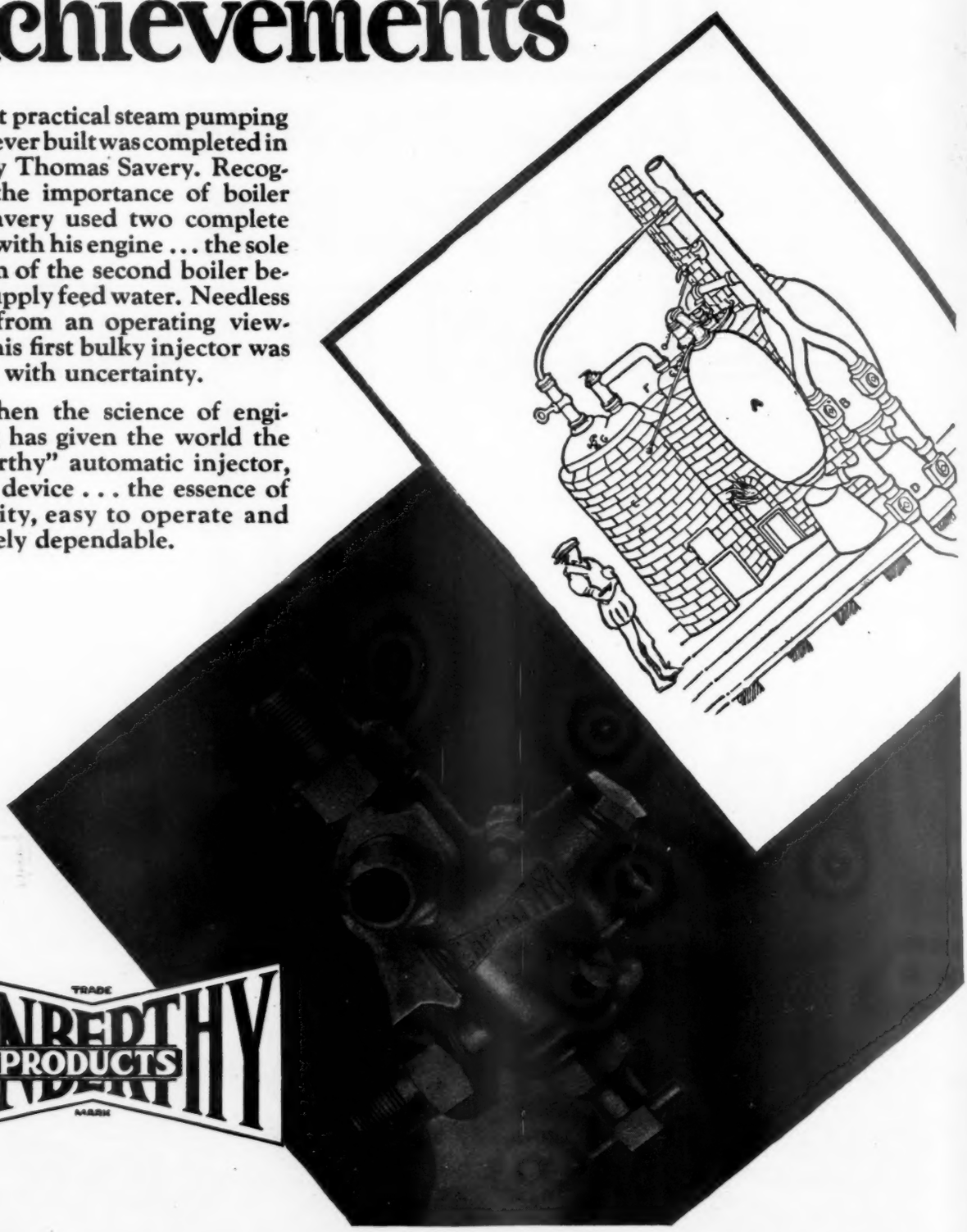
THE NATIONAL SUPPLY COMPANIES

Say you saw it in The OIL WEEKLY

In the Shadow of Famous Achievements

The first practical steam pumping engine ever built was completed in 1698 by Thomas Savery. Recognizing the importance of boiler feed, Savery used two complete boilers with his engine ... the sole function of the second boiler being to supply feed water. Needless to say from an operating viewpoint this first bulky injector was fraught with uncertainty.

Since then the science of engineering has given the world the "Penberthy" automatic injector, a small device ... the essence of simplicity, easy to operate and absolutely dependable.



TRADE PENBERTHY PRODUCTS MARK

PENBERTHY INJECTOR COMPANY

ESTABLISHED 1886

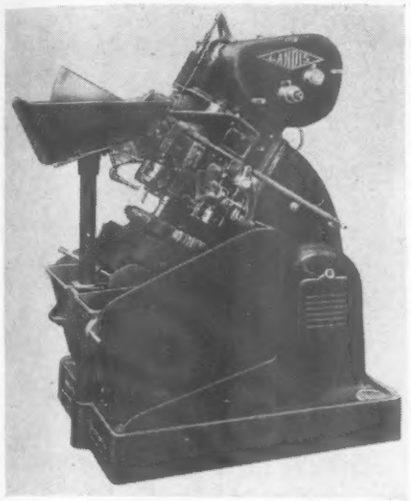
NEW YORK
71 BEEKMAN ST.

DETROIT
1242 HOLDEN AVE.

WINDSOR
ONTARIO, CANADA

Say you saw it in The OIL WEEKLY

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS



LANDIS BOLT MACHINE

Automatic Bolt Machine

LANDIS MACHINE COMPANY

The Landis Machine Company, Waynesboro, Pennsylvania, has placed on the market a new bolt machine, known as the Landis Automatic Pointing and Threading Machine.

New and exclusive features are employed in the unit. The Landex head, a three-quarter-nich revolving head of the pull-off type is used.

According to the manufacturers, the time element for the return of the forming and threading heads and indexing of the turret chuck is constant. The instant that the forming and threading operations are completed, an automatic accelerated motion withdraws the forming and threading spindles and indexes the turret.

Three stations are provided for the turret chuck: one for unloading and loading work, one for cutting to length and forming the end of the screws, and one for threading. These operations are performed simultaneously.

An ejector is provided at the unloading and loading station which will eject the bolt should it fail to drop from the grips.

The chuck jaws open and close on a pivot parallel to the bolt. This centralizes and squares the bolt regardless of any variation in size and insures concentricity of the thread with the bolt. This feature also permits of the gripping of long bolts close to the part to be threaded. Grips for gripping all bolts can be supplied with the machine.

One set of cams covers the entire range of the machine.

Speed of the threading head is quickly changed by means of change gears. Change of speed of the threading head effects a corresponding change in the speed of the forming head, but not in the speed of the indexing mechanism.

Accessibility features the threading head which is located at the front end of the machine, in full view of the operator. It is screwed to the nose of the spindle which has a course pitch thread. The head is quickly removed without dismounting the yoke.

The forming head is likewise accessible when the turret chuck is in a lowered position.

The turret chuck, its operating mechanism, the Geneva indexing movement, and the lock bolt form a complete self-contained unit. The unit is fully enclosed and runs in oil.

The threading unit is counterbalanced.

The chasers are flooded by two streams of coolant which is delivered through the threading spindle and also through a nozzle located at the front of the head.

Centralized lubricating systems are employed wherever possible.

Finished bolts and chips are collected in separate compartments. These compartments are set on an angle so that the bolts and chips can be dumped into containers. The doors, when lowered, form chutes to the containers.

More complete information can be had from the company, on request.

New Centrifugal Pump

ALLIS-CHALMERS MANUFACTURING COMPANY

Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin, is announcing a new pumping outfit, applicable to the oil industry, to be known as Type "SSU" centrifugal pumping units. These are combined motor and pump outfits.

The unit is close coupled by fastening the pump impeller to one end of the extended motor shaft, and the pump casing is bolted to a special integrally cast extension of one of the motor end housings.

Motor bearings, which are the pump bearings as well, are over-size Timken tapered roller bearings with ample thrust and radial capacity.

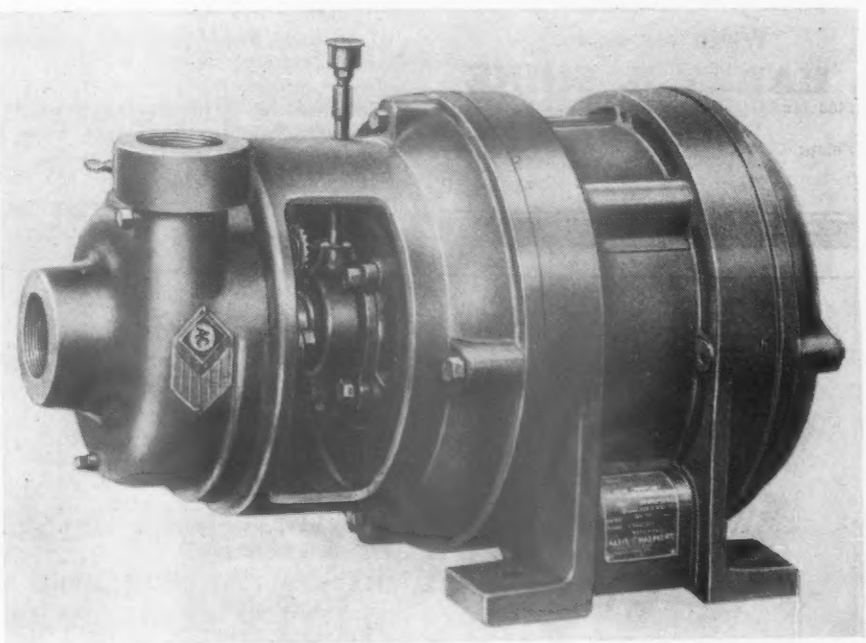
Pumps are built in one and one-fourth by one and one-fourth inches, one and one-half by one and one-half, two by two, and two and one-half by two and one-half inch sizes and can be used with one, one and one-half, two, three, five and seven and one-half horse power motors. Capacities handled range from 25 to 200 gallons per minute against heads of from 50 to 100 feet.

Further information will be supplied by the company, on request.

First National Bank in New Home

Fort Worth, Texas.—With the completion this year of the new addition to the First National Bank here, the main office structure now is 11 stories in height, and in construction and design is one of the most complete banking institutions in the entire Southwest. A night depository is a modern feature, and throughout the summer iced air is fed into and throughout the lobby and offices on the first floor and into the basement.

The First National numbers among its directors and officers some of the well known oil producers in the Mid-Continent field, and represented on its

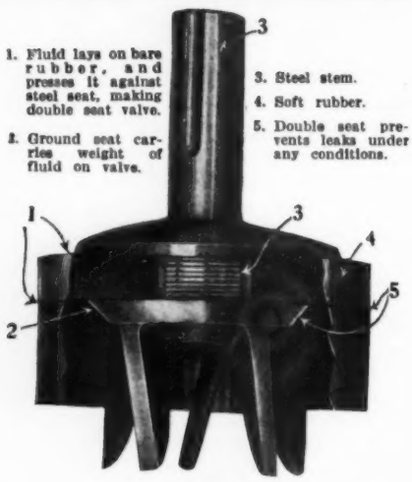


ALLIS-CHALMERS CENTRIFUGAL PUMP

board are men who control more than 300,000 acres of West Texas land, some of which already has considerable production developed.

Established in 1877, the First National has enlarged its banking facilities four times in four different decades and its present structure is the outgrowth of 50 years of service to Texas and the Southwest.

John F. Cilloux, president of the American Iron & Machine Works, Inc., Oklahoma City, spent two weeks in South Texas and in Louisiana during the Christmas holidays.


1. Fluid lays on bare rubber, and presses it against steel seat, making double seat valve.
2. Ground seat carries weight of fluid on valve.
3. Steel stem.
4. Soft rubber.
5. Double seat prevents leaks under any conditions.
1
2
3
4
5

HAMER

Economy Valves

—are made for all types of slush pumps, and give from 6 to 12 times the service of ordinary valves. Complete stock in Houston.

Write for catalog

HARRY B. SHINE

2408 McKINNEY AVE., HOUSTON, TEXAS

Also Agent for

Phipps Core Bit Smith Tubing Head

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Float Valve for Drill Pipe

Air-Cooled Engine

NEW WAY MOTOR COMPANY

A new general purpose, air-cooled engine is announced by the New Way Motor Company, Lansing, Michigan.

A feature of the engine is the special patented air-cooled cylinder which eliminates the use of water.

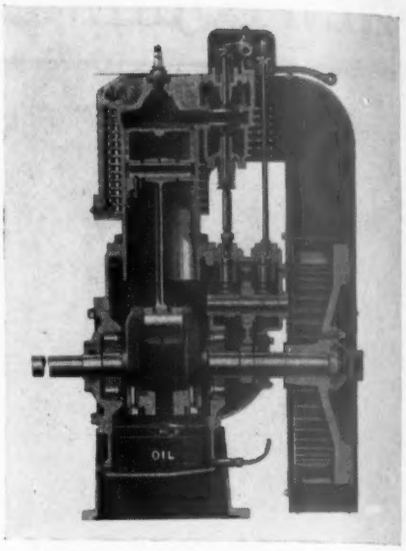
The intake is provided with an air cleaner.

The engine is entirely closed and is dust-proof. All working parts run in a bath of oil.

Speed is regulated instantly, and a convenient lever controls the mechanism of the device being operated.

Unit construction permits removal of the crankshaft without disturbing the ignition, governor, valves or gears.

The engine is built in sizes ranging from five to eight horsepower.



NEW-WAY AIR-COOLED ENGINE

Alaskan Production All Near Katalla

Washington—All of the petroleum produced in Alaska is coming from the wells of the Chilkat Oil Company near Katalla, according to a memorandum given out by the Department of the Interior. At Katalla the Chilkat Oil Company also operates a small refinery. The gasoline and distillate produced from the petroleum there are much in demand in the local market, as they are said to be of better quality than the usual commercial brands.

Drilling to test the possibilities of oil in the vicinity of Johnson Creek in the Yakataga district was carried on by the General Petroleum Company in its Sullivan 1, up until the middle of October, when operations were suspended. From the beginning of the year up to that time the test was drilled from about 865 feet to 2005 feet. The formations encountered are reported to have consisted principally of hard sandstone and sandy shale with subordinate amounts of limestone. Several showings of gas had been encountered earlier at various depths from the surface down to 232 feet, and additional showings were noted at 1643 feet.

The only other place in Alaska where drilling for oil is in progress is in the Matanuska Valley, a few miles west of Chickaloon, where the Peterson Oil Association's well has now reached 865 feet. Most of the formations penetrated after passing through about 180 feet of boulders and gravel near the surface have consisted of shale and related rocks in which nine coal beds have been recognized. At 225 feet the well struck considerable gas, which ignited readily in the bailer. The presence of a coal bed at about this depth suggests that the gas may have come from that source rather than from an oil pool, however. The geologic conditions in this general region are not such as are usually associated with commercial deposits of petroleum, but the company is sufficiently encouraged by the work it has already done to continue still deeper, and intends to renew its operation at this point as early in the coming spring as practicable.

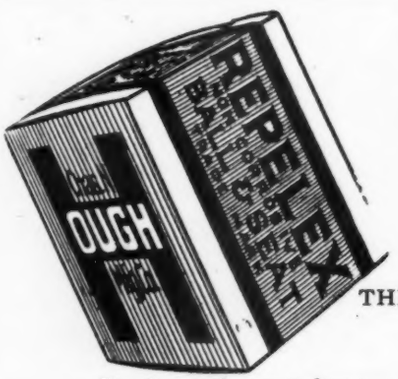
Holmes - Weborg Buys Lease Near Tidioute

Jamestown, N. Y.—The Holmes-Weborg Oil Company of this city has purchased the 270-acre lease of the Forest Hill Development Corporation, located 16 miles from Tidioute, Pennsylvania, on which there are several producing wells. Intensive development work will be started on the lease early in 1928, the officials of the company hoping to drill at least five tests during the spring and summer.

In order to speed up the present production on the newly acquired property, a new central pumping station is being installed.

In addition to the lease and the production, the Holmes-Weborg interests also acquired other property in the recent purchase, including eight large storage tanks, gas meters, engines and machinery, casings and pipes, regulator houses, pump houses, tools and other equipment.

The Holmes-Weborg Company also plans intensive development work in 1928 on its lease at Grand Valley, Pennsylvania, where some 20 locations are yet to be drilled. A gasoline plant has recently been added to the production equipment at Grand Valley; and operations there are at top speed, materially aided by the adequate machinery installed during the past two years.



Lower Costs Larger Profits

Let Repelex do its bit toward this end—its non-corrosive and made for use where acid or other strong elements exist. It will cut down pulling costs. Try one or a dozen.

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Products that cut down your underground overhead.

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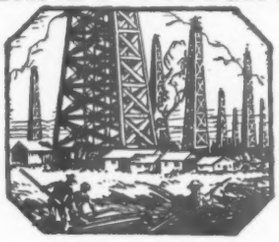
STANDS SUPREME



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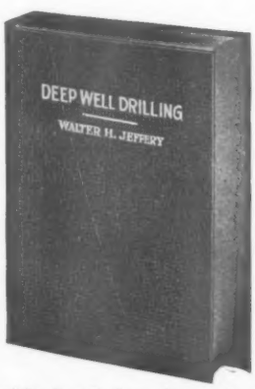
Deep Well Drilling
Second Revised Edition

By Walter H. Jeffery



An up-to-date handbook on well drilling by the methods most generally used: cable, or standard, rotary, combination cable and rotary, and diamond drilling. Includes chapters on Geology, Use of Mud Fluid, Casing Methods, Use of Packers, Cementing, Electrical Drilling and Pumping, Shooting, Completing the Well by Modern Methods, Costs of Drilling, Strength of Materials, Etc. A valuable book for the technical school, for the student and for the driller and operator.

648 pages, 314 illustrations and diagrams. Postpaid, $6.00

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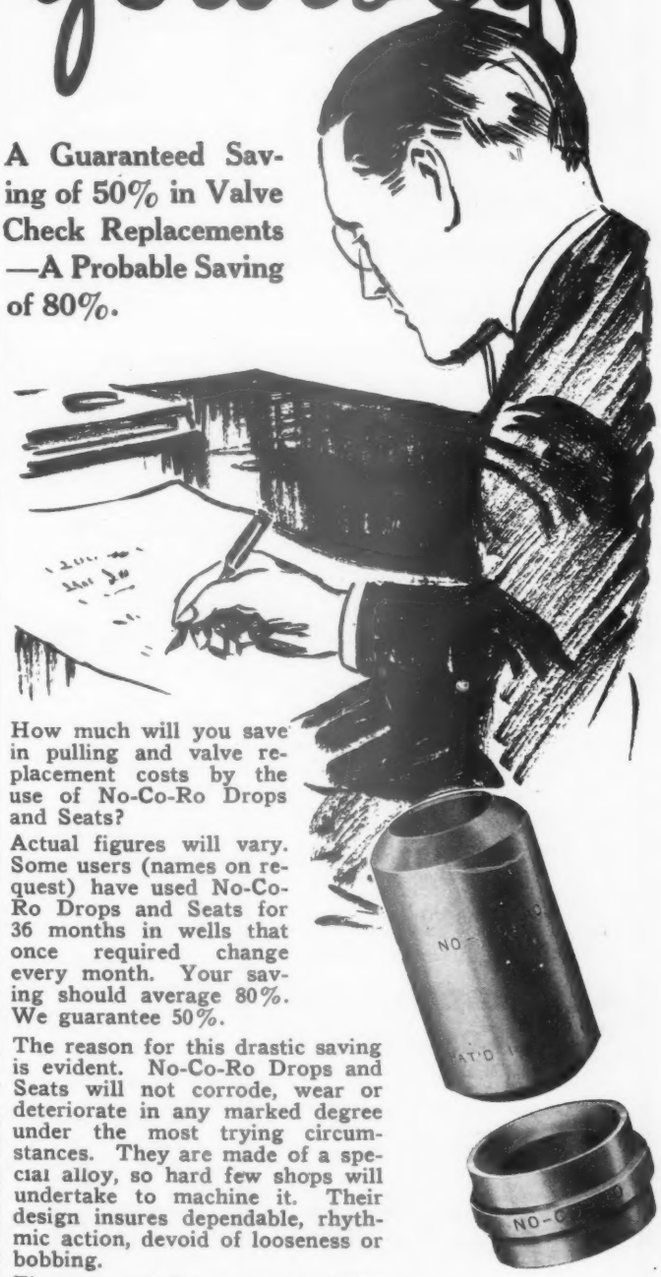
A Guaranteed Saving of 50% in Valve Check Replacements —A Probable Saving of 80%.



How much will you save in pulling and valve replacement costs by the use of No-Co-Ro Drops and Seats?

Actual figures will vary. Some users (names on request) have used No-Co-Ro Drops and Seats for 36 months in wells that once required change every month. Your saving should average 80%. We guarantee 50%.

The reason for this drastic saving is evident. No-Co-Ro Drops and Seats will not corrode, wear or deteriorate in any marked degree under the most trying circumstances. They are made of a special alloy, so hard few shops will undertake to machine it. Their design insures dependable, rhythmic action, devoid of looseness or bobbing.

Figure it out for yourself. With a guaranteed saving of 50% and a probable saving of 80% can you go wrong with a trial?

NORRIS BROTHERS, Inc.
Robinson, Illinois, and Fort Worth, Texas

Greater Tensile Strength Insures Higher Resistance Against Collapsing

"ASTCO" Seamless Steel PIPE

Inferior and low quality pipe is responsible for many failures which are attributed to shifting formations and other causes. Pipe used for oil country work must have the ability to withstand most severe strains of this character.

"ASTCO" Seamless Steel Pipe has the quality and strength to withstand the extreme pressures encountered in the hole. Its minimum strength is 80,000 pounds per square inch; elongation in 2-inches is twenty per cent. It embodies 40% greater tensile strength than lapweld casing of the same size and weight.

"ASTCO" Seamless Steel Pipe provides the highest factor of protection against the possible loss of wells and production.

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STRENGTH RESISTANCE ASTCO DURABILITY

(Trade Mark Reg.)

"ASTCO"
Standard Screw Casing
Slip Joint Casing
Flush Joint Casing
Line Pipe *Drill Pipe*

SQUEAKS FROM THE BULL WHEEL

We predict a great future in the financial world for our office boy. He started a bank account some time ago at a Houston bank, and because he has only $10 in his checking account, the bank charges him a dollar a month to handle it, the least account that is handled without service charge being $100.

But he has figured out a way to beat the bank at its own game. He has borrowed $100 from the bank at 7 per cent, which costs him only $7 a year, has put the money to his checking account, and will save five on it the first year!

Lady: "But don't you find that horseback riding gives you a headache?"
Instructor: "No, Madam, just the reverse."

She: "I bobbed my hair to show my independence."
He: "What did you bob your skirt for?"

"Should I marry a man who lies to me?"
"Lady, do you want to be an old maid?"

Pat had undergone an operation, and as he was coming out of ether in the ward he exclaimed audibly "Thank Goodness! That's over!"

"Don't be too sure," said the man in the next bed, "they left a sponge in me and had to cut me open again."

And the patient on the other side said, "Why, they had to open me, too, to find one of their instruments."

Just then the surgeon who had operated on the Irishman, stuck his head in the door and yelled, "Has anybody seen my hat?" Pat fainted.

The triumphant return of the "little town boy" who has made good in the big city isn't always what it should be.

There's a story on record of one whom we shall call Bill Jenkins. Now Bill had done just that—gone to the big town 20 years before, and made good—with a vengeance. So when, after these 20 long years, Bill alighted at the little station platform of the old home town, he had high hopes of making a big impression on the local talent. But there wasn't a person in sight he knew—not a soul.

Disappointed, he sought out the baggage master, a friend since boyhood. Here was one at least who would welcome him, and be properly impressed. He was about to extend a hearty greeting, when the baggage master spoke first:

"Hello, Bill," he said, "Goin' away?"

Customer—Two eggs poached, medium; soft, buttered toast, not too hard; coffee, not too much cream.

Waiter—Yes, sir. Would you like any special design on the dishes?

Sam—You drive very fast, don't you?
Doc—Yes, I hit 70 yesterday.
Sam—Did you kill any of them?

In the rich and prolific Yates pool of Pecos County, West Texas, Mid-Kansas and Transcontinental Oil Companies' No. 7-B Yates, in section 61, topped the pay at 1131 feet, drilled to total depth of 1268 feet, and the well flowed 320 barrels in nine counties.—Okmulgee Daily Times.

Officer: "You were making forty-five. I'll have to pinch you—"
Martha: "Oh, if you must, please do it where it won't show!"

"Bredren," said the colored preacher, "you have come to pray for rain. Bredren, de foundation of religion am faith. Whar is yo' faith. You comes to pray foh rain and not one of you brings his umbrella."

"An' how's yer wife, Pat?"
"Sure, she do be awful sick."
"Is ut dangerous she is?"
"No, she's too weak t' be dangerous anny more."

John and George, small sons of a Baptist minister, after listening to one of their father's sermons, decided that they must baptize their family of cats. The kittens made no objection. One by one they were put in a big tub of water.

But when it came to the mother cat, she rebelled—and fought—and scratched—until at last John remarked:

"Just sprinkle her, George, and let her go to hell."

Johnsing, "Ah's done got reeligion."
"That's fine, brother! You am gwine t' lay aside all sin?"
"Yes suh!"
"You am gwine t' church?"
"Yes suh-ree!"
"You am gwine t' care for de widows?"
"Ah sho' am!"
"You am gwine t' pay your debts?"
"Pahson, what am your idee in bringin' dat up? Dat ain't reeligion—dat's business!"

To avoid chartering a special car to ship 200 pounds of limberger cheese, a manufacturer packed it in a rough box and checked it for a corpse. At the first stop he went ahead to the baggage car to see that there was no trouble. He stood by the box in a disconsolate attitude and shaded his eyes with his hand. The baggage man was sympathetic. "A relative?" he asked.

"Yes, it's my brother."

"Well, you have one consolation. He's dead, all right."

Be Careful In The Selection Of Lubricants For Your Motorized Equipment

Passenger cars and trucks of different makes vary considerably in type and design.

Be sure that you understand: (1). The type of lubricating system used, which determines the method of feeding the oil. (2). The type of cooling system used, this factor having more or less effect on the operating temperatures of various parts of the motor.

The proper lubrication of motor equipment means not only the lubrication of the engine cylinders — but the complete lubrication of all of the moving parts of the motor. Much harm can result from the use of too heavy an oil in a pressure system not designed to handle it—also where the "splash" system is used, the oil must not only flow easily, but must atomize readily so as to reach certain bearings which can be lubricated only by a fine mist. Your passenger cars and your trucks are designed to give you many years of service—if they are properly lubricated.

HUMBLE OIL & REFINING CO. HUMBLE OILS HOUSTON, TEXAS

Reg. U. S. Pat. Off.

There is a Humble Oil which is specially prepared to meet every bearing need in your plant, your trucks, or in your automobile.

Humble Motor Oils are the result of years of experience in lubricating internal combustion engines. The recommendations of Humble engineers are an added factor of safety. Whether you operate one passenger car and truck, or a whole fleet of motorized equipment, it will pay you to learn more about Humble Oils.

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Galveston, Texas